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COURSE OF

LECTURES ON THE BLOOD,

AND ON

THE CHANGES WHICH IT UNDERGOES DURING, DISEASE

Delivered at the College of France in 1837-8,

BY

M. MAGENDIE.

LECTURE XI.

Pressure of the blood in the vessels.—The sphygmometer.—Influence of the respiration on the venous circulation; it diminishes with the distance from the chest.—Modification of the walls alters the circulation.—Death by entry of air into the heart.—Precautions necessary during the application of ligatures.—Respiratory movements also influence the abdominal viscera.—Mechanism of respiration.—Illustrative experiments.—Attempts to determine the proportions of serum and clot.—Action of salt on the blood.—Albuminous nephritis.

GENTLEMEN:—I told you that we were without any instrument for measuring the pressure of the blood-vessels in the human subject; there is, however, a little apparatus, constructed with quite different views, which is, to a certain extent, applicable to that purpose; I allude to the instrument called *sphygmometer* by its inventor; it consists of a straight glass tube, terminating, inferiorly, in a metallic infundibulum, the wide extremity of the latter being closed with a piece of gold-beater's skin; the tube is graduated by millimetres, and filled with mercury; a cock is also adapted to it, and by turning this the mercury is allowed to come in contact with, or kept away from, the membrane closing the apparatus. The mode of using the instrument is very simple; you choose a superficial artery, such as the radial, in the close vicinity of the carpus, and lay the instrument by its lower end on the skin, taking care to lean somewhat on it, as the pulsation of the vessel is thus transmitted more perfectly to the mercury. In order to show you this I apply the instrument to the radial artery of this gentleman: the mercury, you see, rises and falls regularly, each oscillation corresponding to an arterial pulsation; the rhythm of the pulse is thus, no doubt, accurately learned, but we cannot estimate, with exactness, its degree of force in this manner. When a deep expiration is made the column, it is true, rises several millimetres; but observe that I produce the same effect by leaning more heavily on the instrument; it is, consequently, impossible to assign to each cause of elevation—the pressure of the walls of the vessels by the blood, and the direct action of the tissues on which the instrument is laid—their respective degrees of influence on the movements of the mercury. The flexibility of the gold-beater's skin causes it to mould itself to the inequalities of the skin; the least prominence on the surface causes a rise in the mercury, and this might be mistaken for the effect of increased arterial pressure. Perhaps the instrument might be made more accurate in its indications by changing the membrane now used in it for a caoutchouc one. However, so far as they can be trusted to, the experiments made with the sphygmometer confirm those made with M. Poiseuille's instrument. It is evident that the pressure diminishes during inspiration, and augments during expiration. This fact is perfectly apparent in ordinary respiration, but becomes much more marked when the chest expands or contracts energetically. In very deep inspiration the slackened movement of the arterial blood may be such as to neutralise, momentarily, the contractile force of the heart; the mercury then becomes almost motionless. It was, probably, in this manner that certain persons, as authors narrate, were enabled to produce the singular phenomenon of a stoppage of their circulation.

We will now examine the influence of respiration on the venous circulation with the hæmodynamometer. The chest represents a pump, which, by means of its dilatation, aspires the liquid contained in the veins; when its walls expand a tendency to a vacuum is produced, and the blood contained in the venæ cavæ rushes towards the

right auricle; on the contrary, during expiration, those vessels are compressed, and the fluid they contain repelled from the chest. All this is extremely distinct in the jugular vein; its superficial position and proximity to the thorax render the flux and reflux of the liquid very manifest. If you lay that vessel bare you find that its coats swell or collapse, according as the chest contracts or dilates. In the one case the pressure of the internal air exceeds that of the atmosphere; in the other, the pressure of the atmosphere is the more considerable; the force of aspiration of the right auricle is also to be taken into account; but that force does not extend its influence beyond the thorax, and, consequently, cannot be compared to that of the chest during inspiration. Barry maintained that the principal motor force of the blood, from the origin of the veins to the heart, is none other than atmospheric pressure. This is a serious error; the thing is physically impossible. How is it possible for a force acting only on the walls of a tube to give a circular movement to a fluid contained within that tube? Fill a caoutchouc tube with water, and you will find that the pressure of the atmosphere will not cause any movement in it in one direction rather than in another; but if you introduce the point of a syringe into it, and set the piston in motion, then, indeed, displacement will ensue. The heart represents this agent of impulsion; it is its contractions that communicate their movement to the columns of blood in the arteries, capillaries, and veins. Atmospheric pressure exercises only an accessory influence; though only accessory, however, it is well worthy of being experimentally studied, and this I now proceed to do in imitation of M. Poiseuille: I introduce the hæmodynamometer, filled with subcarbonate of soda, into the left jugular vein, directing its point towards the heart; the point of the instrument is a centimetre distant from the chest; the scale marks zero. You observed that the moment I turned the cock the mercury oscillated, and that its rise corresponded to a movement of expiration; it fell to one of inspiration. Take exact note of the numbers I announce. The sign + indicates the height to which the mercury rises above zero; the sign — the point to which it falls below it. The animal breathes freely, and we have

—75, + 50; —80, + 60 millimetres.

He struggles, and, in consequence, the column rises to

—120 + 105; —100 + 110 millimetres.

He is again quiet, and the mercury gives

—30, + 55; —55, + 90 millimetres.

When the animal struggles violently a still greater variation in the height of the column takes place; it may fall or rise 250 or 300 millimetres. A similar effect is produced by compressing the sides of the chest with the hand; this I now do, and we have —150, + 120; —130, + 145 millimetres. By these experiments, and others made by M. Poiseuille, we are justified in concluding that during inspiration the blood rushes to the chest, and during expiration flows from it. These results are certainly not new, but the precision with which we are now able to estimate them by the hæmodynamometer is so. You will readily conceive that the presence or absence of valves in the veins on which the experiments may be made must modify the retrograde pressure of the venous blood. M. Poiseuille was astonished, on applying the instrument to the jugular of a dog, to find that the mercury remained below zero during expiration as well as inspiration. He dissected the vein, and traced the cause of this peculiarity to the anatomical structure of the vessel; there were valves at its point of union with the subclavian, so that, when the chest contracted, they prevented the reflux of the liquid. The proof that this was really the obstacle that opposed the ascent of the column is, that when the point of the instrument was placed beyond the valves, the subcarbonate of soda immediately rose 60 or 80 millimetres.

If the rarefaction of the interior air produced by inspiration were, as it has been maintained, indispensably necessary to ensure the movement of the venous blood, the progression of that fluid would cease the moment the pressure exercised on the lung became permanently superior to that of the atmosphere. Now, the contrary is proved to be the truth, by the following experiment, described in one of M. Poiseuille's memoirs:—Make a wide opening in both sides of the chest of a dog, and then practise artificial respiration with a bellows; the air pushed into the lung dilates its cells, and, subsequently, its entire substance. It is evident that the pressure of the air contained in the chest is superior to that of the circumambient air. When you give over the insufflation the pulmonary tissue retracts, by reason of its elasticity; the air it contains has even still a greater force of pressure than that exercised by the atmosphere on the venous system generally. In this experiment aspiration of the blood is at an end; the scale of the instrument, applied to the jugular vein, shows that the elevation of the mercury remains unaltered, and yet the circulation continues.

The further we remove from the chest the more the influence of the respiratory movements on the course of the venous blood decreases. This is easily ascertained by placing the hæmodynamometer in different veins, as the axillary, brachial, saphena, &c. According as the distance from the thorax increases the oscillations of the column become less and less distinct, and we at length reach a point where the subcarbonate of soda stands motionless, no matter what vio-

lent struggles the animal may make. We may obtain very different degrees of pressure, even in the same vein, by applying the tube far from, or near to, the thorax. Thus, if you act on the jugular at a distance of 15 centimetres from the chest, the column stands still, instead of oscillating above and below zero. The most violent efforts of respiration are scarcely appreciable by the scale; but if you come within 7 or 8 centimetres of the chest, by employing a longer tube, the influence of respiration becomes much more manifest; finally, introduce its point within the thorax, in the neighbourhood of, or even into the interior of the superior vena cava, and you obtain those extensive oscillations we have already had occasion to observe. If the parietes of the veins were inflexible, instead of being, as they are, flexible, the aspiration of the chest would not be confined to the trunks in its vicinity; it would extend to their radicles, were they ten metres long. The structure of the vascular tunics is such as to allow of alternations of dilatation and contraction, which at one moment increase their calibre, at the next block up their interior. Herein lies the real cause of the gradual diminution and total cessation of aspiration of the venous blood through the movements of breathing. This is clearly seen by laying bare a portion of the jugular of a dog; at the distance of a few centimetres from the chest the vein ceases to be pervious in consequence of the application of its walls to each other by the pressure of the atmosphere during inspiration; the blood returning from the head is thus prevented from entering the chest. M. Poiseuille has very clearly explained this by the analogous case of an inert tube with moveable walls, filled with water, and having a syringe adapted to it; the elevation of the piston corresponds precisely in its effect to the dilatation of the chest,—a tendency to the formation of a vacuum is the result in both instances. Suppose the tube to be insusceptible of locomotion in a forward direction, a small quantity of liquid will, at first, enter the syringe, but the piston will soon cease to be moveable, because the same phenomenon occurs as in the jugular vein of a living animal; the walls of the tube, applied against each other by the atmospheric pressure, form a sort of valve, so that this pressure, which is the original cause of the entry of the liquid into the syringe, subsequently becomes an obstacle to its further admission; and do not fancy that, by increasing the force of aspiration, you will surmount the resistance offered by the walls of the tubes; on the contrary, the more forcibly you raise the piston the more intimate will their contact be; the atmosphere will press the walls of the tube together with a force increasing in the direct ratio of the diminution of the internal pressure; the obstacle to any further ascent will, at length, become insurmountable; by modifying the degree of resistance of the walls we also modify those phenomena we have been considering; if you use a metallic instead of a flexible tube, the aspiration of the piston will be felt at a much greater distance, for the ascent of the liquid in the syringe will not be impeded by the collapse of the walls of the tube; such, too, would be the case with the veins, were their structure of such a kind as to enable them to resist atmospheric pressure effectually. The trachea never collapses so as to form a valvular obstruction in its interior; the cartilaginous rings that form its framework allow of the ingress and egress of the air with perfect freedom. Why, then, does not the venous blood move with equal facility in its vessels? Have we not seen that the chest, during dilatation, aspires both that liquid and atmospheric air? The difference exists solely in the physical properties of the blood-vessels and air-tubes; this is so true, that when the veins happen, from any cause, to have acquired such resistance as the trachea normally possesses, the air rushes into them during inspiration, and reaches the right ventricle. Too many examples are, unfortunately, on record of the occurrence of fatal results through the accidental entry of air in this manner. I have published an essay on the subject, and I presume you remember the experiments I made before you, in the course of which I explained the best means of preventing or remedying this formidable occurrence. Here, again, physiological theory is no more than an application of the most simple laws of physics. Whenever a surgeon practises an operation close to the thorax he should take care to be provided with an instrument fitted for withdrawing any air that might accidentally enter the veins, and, through them, the right cavities of the heart. The chief symptoms of such entry are a peculiar sibilus, tumultuous pulsations in the chest, and spontaneous syncope. It is not the deleterious action of the air on the living tissues that causes death, but the stoppage of the circulation, which takes place in consequence of the ventricle having nothing to contract on but a spurious mass incapable of traversing the vessels. The sole means of saving the life of the patient consist in aspiring the froth accumulated in the right side of the heart, before too large a quantity has reached the lungs and left side of the heart. I say, too large a quantity, advisedly; for it is not true that a single bubble of air mixing with the blood will induce death. I am aware that this assertion makes somewhat light of the organic sensibility of the capillaries, concerning which such marvels are related; but the fact may be easily verified by any of you. Open the jugular of a dog, and inject air into it, taking the precaution to perform the operation extremely slowly;

the animal will continue to live after receiving into its veins, not a single bubble, but an entire syringe full of that fluid. Next vary the experiment, by pushing the piston rapidly, and you will find that death follows instantaneously. The difference in the effects depends on the manner in which you cause the entry of the air. In the one case the air reaches the blood gradually, by successive bubbles: its presence in the small vessels constitutes no obstacle to the continuance of the pulmonary and general circulation. When, on the contrary, you suddenly force in a considerable volume of air, that fluid, dilated by the heat of the organs, distends the walls of the ventricle to such a degree that they cannot contract. The movement which subsequently takes place in the heart depends on contraction of the left ventricle; the right cavities have scarcely any share in it. Hence the importance of causing an assistant to compress, or of tying the cardiac orifice of any good-sized vein that may chance to be opened in the neighbourhood of the chest. And in the application of a ligature there are certain precautions to be taken. You must be careful not to raise the vessel by introducing one of the branches of your forceps into the interior, and applying the other to its outside; in this way, acting on one side only of the cylinder, you run the risk of permitting the air to enter when you draw the vessel from the wound. The best plan is obviously to seize the vein by its external surface, and then tighten the ligature.

The influence of the dilatation and retraction of the pectoral parietes is not confined to the organs contained in the chest: the abdominal viscera are quite as directly influenced by the movements of respiration; and, as this constitutes an additional means of pressure on the venous tubes, I shall enter into a few considerations respecting it. The mechanism of the thoracic and abdominal cavities must first be called to mind. During inspiration the ribs, their cartilages, and the sternum, are carried upwards and forwards; the diaphragm contracts and descends, carrying with it the lungs and pericardium. The chief diameters of the chest are thus increased in extent. But observe that its vertical dilatation is effected wholly at the expense of the abdomen. The diaphragm drives the abdominal viscera downwards in proportion as it acquires a plane instead of a curved form; expiration succeeds. The mechanism of this movement is the inverse of the preceding; the thorax is restored to its ordinary dimensions and relations by the elasticity of the costal cartilages and ligaments, by the relaxation of the muscles of inspiration and the contraction of those of expiration. The fibres of the diaphragm relax, and that muscle, driven upwards by the abdominal viscera, reacquires its vaulted shape. The ascent of the muscle is also promoted by the elastic retraction of the pulmonary tissue, which exercises a manifest traction on every point of the thoracic walls. The increased size of the abdomen is thus in the direct ratio of the contraction of the chest. The two cavities are jointed into one another in such a manner that a series of horizontal incisions, from the ensiform cartilage to the last intercostal space, would pass into both of them. The vertical diameter of the first cannot increase unless by diminishing that of the second, and *vice versâ*. Some physical consequences bearing on the venous circulation, are deducible from these anatomical facts. The vascular trunks that traverse the abdomen to reach the right side of the heart, are influenced by respiration, but it is through direct compression of their walls, and not by the absence of equilibrium between the internal pressure and that of the atmosphere. In other words, when the chest expands the abdominal viscera press forcibly on the venous trunks, diminish their diameter, and so drive the column of liquid where it can find an issue. The blood passes partly towards the thorax, partly towards the lower extremities, but in the latter direction it encounters the valves which arrest its progress; it is consequently forced to push on to the chest, and its entry into that cavity is further promoted by the dilatation of the right auricle. There are, therefore, at first, two currents in opposite directions, which, however, almost immediately coalesce into one. Expiration follows, and the abdominal viscera, compressed by the walls of the abdomen, press in turn on the vessels. The same displacement of the columns of blood, the same play of the valves, and impulsion of the blood towards the thorax are again produced. The blood contained in the abdominal veins and vena cava, is evidently urged on towards the central organ of the circulation during both movements of respiration. These phenomena have been very accurately described by M. Poiseuille, who has made numerous experiments in elucidation of the theory of their mechanism. Proceed we now to repeat some of them. The instrument is applied to the femoral vein of a strong dog, close to the crural arch; its extremity is turned towards the heart, and reaches into the abdomen about as far as the sacro-vertebral symphysis. We shall have no action of the valves to apprehend, for the point of the instrument is placed beyond them; and we may rest satisfied that the least reflux of the blood will influence the column of subcarbonate of soda. I commence: the liquid, which stood at zero, now oscillates. You observe that each oscillation corresponds to a respiratory movement. We obtain

During inspiration +45, +38, +40, +35 millimetres.

During expiration +70, +65, +75, +68 millimetres.

The column, therefore, never falls below zero. This is an important fact, and if you compare the position and other conditions of each vessel, you will easily understand why the phenomena should differ in the jugular and femoral veins; you have only to call to mind the general considerations into which I just now entered. Every kind of accidental pressure will cause the liquid to rise. I compress the walls of the abdomen with my hand, and the scale immediately marks +290, +300, +350 millimetres.

There is incontestable proof that the rise of the column during expiration depends on the pressure exercised on the vessels by the walls of the abdomen, in the fact that when those walls are cut open no sensible elevation in the tube is any longer observed. As regards inspiration, it would be curious to prove, directly, that the descent of the diaphragm is the cause of the increased pressure of the venous blood. The experiment has never been made, but it would be possible, by dividing both the phrenic nerves, as I did long ago, in the course of some experiments on vomiting, to paralyse that muscle, and so put a stop to its influence. I have no doubt but that were this done, the elevation of the column corresponding to inspiration would no longer be observed.

We are once again, Gentlemen, obliged to recur to the question of the means of determining the proportion of serum and clot that exists in normal blood. As this point is capable of becoming of the very greatest importance, our time cannot be considered wasted in its investigation. You remember the various difficulties we met with in inquiring into it, simple as it may appear; and though I had flattered myself that I had at length triumphed over them, a new and inexplicable fact has occurred which shows the imperfection of the methods of examination I had devised. I allude to the case of the animal into whose veins I injected distilled water. The animal was bled a few minutes after the operation, and the blood drawn coagulated perfectly well, scarcely any serum making its appearance. This absence of serosity is truly surprising; our injections must indubitably have augmented the aqueous part of the blood, and yet the solid elements appear the more abundant. We rarely observe a fact at all extraordinary in its characters without, in spite of ourselves, as it were, endeavouring to explain it. In this respect I pay my tribute, like the rest of the world, to the nature, or rather the weakness, of the human mind, ever impatient to learn something new. But you will do me the justice to allow that I never advance such explanations as final; I invariably submit them to the touchstone of experience, and when this proves them fallacious I seize the opportunity of pointing out to you the slight value of these extemporaneous hypotheses. I was extremely desirous of striking out some plan for ascertaining the proportions of the clot and serosity, and, after some unsuccessful efforts, hit upon that of evaporating the blood. This was a tedious process, but not to be rejected on that account. Still it could give us no insight into the cause of the clot becoming more voluminous than natural after an injection of water into the veins; new inquiries were, therefore, called for. There was, at the same time, a young woman, aged twenty, in my wards at the Hôtel Dieu, completely anemic, and presenting a most distinct *bruit de diable* in the carotid arteries; in a word, all the signs of a superabundance of serosity. Now, here is some of her blood, and positively I would not affirm that it contains more serum than clot.

As distilled water dissolves the globules of the blood, I mixed the latter liquid with sugar and water, which does not alter their characters in any way. In this case, a centilitre of blood and sixty centilitres of water have been mixed together; the results are, that the colouring matter which, as you are aware, contains ferruginous particles, and is, therefore, of greater specific gravity, has fallen to the bottom, and the fibrine, or coagulable matter, remains suspended through the whole mass. At a distance, the liquid appears to contain fluid materials only, but, on looking closely into it, nothing can be more plain than that it contains fibrinous filaments, forming a sort of rude cellular structure by their interlacement. Now, I put a very small quantity of blood only into this sugar and water, whence it follows, that that structure represents a rare and light coagulum, the meshes of which would have imprisoned the globules had they not been precipitated. Suppose these distended cells, now floating in the sugar and water, approximated and compressed together, and you will have a regular clot, minus the globules. It is thus the coagulum is, in all instances, organised. This experiment was made with arterial blood. Here is a second mixture, composed of thirty centilitres of sugar and water, and three centilitres of arterial blood. The results are of the same character, but more strongly marked. You perceive that the fibrinous clot fills the vessel almost completely. Instead of filaments, as in the former mixture, we have lamellæ, a species of membrane, interlacing in various directions. Four centilitres of blood, and 60 of sugar and water, have been mixed together in this vessel. You observe a fibrinous clot here, above the colouring matter; this, by the way, reminds me that we may be fortunate enough, by the plan we are employing, to clear up the origin and history, generally, of what is termed the *buff* by pathologists. Certain questions respecting it, which have vigorously employed the pens of writers, such as, whether it is really a morbid product;

whether it is contained in the blood, or formed after the blood is drawn from the body, shall be treated of at length in their fit place, namely, at the close of the present course. But I may now state, that I believe the *buff* to be nothing more than fibrine deprived of the colouring matter; fibrine, which is consequently lighter than that retaining the colouring material in its meshes: the latter, in virtue of its greater specific gravity, would sink to the bottom; and the former, in consequence of the same physical law, would rise to the surface. In the next vase, which contains 7 centilitres of blood, and 60 centilitres of water, we discover a phenomenon perfectly analogous to that which we remarked in the animal into whose veins we injected water, and in whose blood, notwithstanding, no spontaneous separation of the serosity took place. Here, in truth, in spite of the enormous proportion of fluid added to the blood, the clot fills the major part of the vessel, whereas there are only a few drops of serosity. Now, here is a case in which, no matter how sorely it may puzzle the vitalists, the same phenomenon occurred in an organised vessel, and in an inorganic vase. I do not make this remark, Gentlemen, under the influence of any systematic or preconceived doctrine; it is plain and straightforward inference from two facts of which you have yourselves been eye-witnesses. It is to me, who disavow every opinion and theory not based on almost physical certainty, a matter of little consequence whether this or that phenomenon be of this or that nature; whether it belong to the domain of physics or chemistry; or, on the other hand, exist under the influence of life, provided we succeed in establishing the cause, the mechanism, and the consequences of its existence. Eight centilitres of blood and 60 of distilled water, are mixed together in this last vessel, in which you perceive the clot is of very considerable size. Hence it follows, that blood, well mixed with even so large a proportion of liquid as this, will not, on that account allow of the appearance of serosity during the process of coagulation; and, as a further consequence, it is clear that the inspection of the clot cannot give any notion, approaching even to accuracy, respecting the real quantity of serum contained in the blood. In support of what I advance, here is the blood of the animal who underwent aqueous injections into the veins. Although a considerable time has elapsed since the blood was drawn, no greater quantity of serosity is now visible than immediately after the operation. Henceforth, therefore, we can feel no reasonable doubt but that, in following the method of simple inspection, we should have fallen into most serious errors. However, there is one thing more to be done, before we finally abandon that method of proceeding; namely, to examine the manner in which the organisation of these coagula diluted with water is effected, and ascertain how the liquid conducts itself with respect to the fibrine. The microscope will, no doubt, throw some light on this problem, which at present appears very difficult of solution.

I have an experiment, which has led to a very novel result, to describe to you:—I mixed together 60 centilitres of water, 3 decigrammes of hydrochlorate of soda, and 20 cube centilitres of blood. The second named substance, which is the common salt used for domestic purposes, is remarkable, like sugar, for not dissolving the globules, but it promotes their separation from the coagulable matter, or fibrine. Hence the clot I now show you is of a very different size from those we have hitherto examined; besides, it presents a well-marked horizontal retraction, a peculiarity which was not observable in the other clots of our manufacture. From this it results that hydrochlorate of soda has considerable influence, not only on the coagulation of the blood, but on its colour; for you see that this clot is of a very beautiful arterial red hue, even in its centre, where it has not been in contact with the air. Nature has, therefore, had good reason for spreading this substance in such abundant profusion over the earth, and for giving man and the lower animals the instinctive desire for its use which they are well known to have.

Experience has long taught veterinary practitioners the vast advantages derivable from the use of sea-salt, and it, in consequence, takes rank amongst the most important substances in their Pharmacopœia. A phenomenon of analogous character is to be seen in this other vase, in which I have made a mixture of equal volumes of blood and salt water. You observe that the coagulum is really enormous,—an additional proof that the condition of the clot may furnish no evidence of the existence of any fluid in its composition, though fluid may really be present to a very large amount. This clot, too, is firm, solid, and resisting; no matter in what way I turn the vase containing it, not a single drop of serosity escapes. What has become of the salt water I added to this blood? Has it become chemically combined with it, or is it simply interposed between the cells formed by the fibrine during the process of *organisation*? Do not be surprised at my use of the word; a little consideration will, I think, prove to you the justness of its application. Compare the phenomena of the coagulation of albumen and fibrine. In the case of the former substance you have nothing more than an amorphous body, the molecules of which have drawn near to each other, and assumed a new arrangement, under the influence of a physical or chemical agent,

while that body itself has mechanically lost its transparence, its viscidity, and its liquidity, through the new arrangement of those molecules. If you divide the mass, the most scrupulous and attentive examination will not detect the least trace of organisation, nor anything tending to show an analogy between the phenomenon which has occurred and that of crystallisation. Fibrine, on the contrary, coagulates spontaneously; it is its nature to do so. Examine it closely when in this condition, and you will find a real texture, or parenchyma; you will observe filaments crossing each other in a variety of directions, and you will see that these filaments contract adhesions with each other, bound spaces of variable regularity, and thus form cells resembling those discovered by the microscope in our most delicate tissues. This will be rendered more than ordinarily evident, by placing it in any liquid having the property of holding it in suspension, and separating it from foreign bodies, as you have seen to be the case with a solution of sugar in water. I would not affirm that the coagulation of the fibrine is a purely vital phenomenon, but I have no hesitation in stating my belief that something more takes place in it than in crystallisation; I look upon it as an action that occupies a middle place, if I may so express myself, between *vitality* and *inorganism*. Be all this as it may, one thing, at least, is certain, that had we, a month past, when we commenced our study of the coagulation of the blood, been shown a clot, such as that we have been speaking of, we should not have fancied, for a moment, judging from its consistence and solidity, that it could possibly contain much fluid. Here, on the other hand, is some pure blood of an animal bled yesterday; neither liquid nor solid has been added to it, and yet it presents a larger proportion of serum than that which really contained a large quantity of liquid. These facts suffice to show the necessity of mistrusting appearances. The man who makes his observations with the most scrupulous exactness may err eggregiously in respect of the simplest facts; the history of physiology abounds with such cases, wherein observers who have triumphed over the most perplexing problems, have completely failed on questions of comparatively trifling difficulty. Let me, therefore, recommend you, as I have always done, experimental inquiry, as the counter-test of such facts as you may conceive you have discovered; believe me, it is the touchstone of truth.

I have a few words to say respecting a disease to which I adverted in my last lecture; I mean albuminous nephritis. You remember the case in which I injected human serum into the veins of a dog. In addition to the results of that experiment already narrated, I ascertained that its urine had become albuminous. I proceed to repeat the experiment: these two glass vessels contain urine; the one that of a patient labouring under nephritis, the other that of the dog in question. On pouring a few drops of nitric acid upon the two specimens, you observe that they both become turbid, whiten, and that, finally, whitish flocculi, of perfectly analogous character in both instances, make their appearance. The colour of the two fluids is not exactly the same; but this is the sole difference between them, and probably depends on the variety of salts that one of them may contain. This appears to me a curious result, for if it were confirmed by further investigation, it would show the necessity of changing the mode of treating *albuminuria* at present adopted, which is utterly empirical; the ordinary prescription in such cases consists of bitter ptisans and mercurial pills. Here is another fact belonging to the same category; the urine I now show you comes from an animal who died at the end of twenty days' total abstinence from solid and liquid nourishment, and it appears to be albuminous, for nitric acid throws down a very abundant precipitate in it. These comparisons of similar affections, produced by different causes, are very important; for if, in the present case, the privation of food induced the disease, it is clear we ought to avoid bleeding, putting on low diet, or otherwise weakening any individual affected with it. I do not, however, lay any great stress on this point for the present, as the fancied resemblance may not be a real one.

The animal lying on the table is the subject on whom the injection of serum was practised. The lungs, as you perceive, are but little affected; neither in the kidney, or in any other part of the genito-urinary apparatus, are there any of the anormal granulations described by Dr. Bright to be seen; it would appear that there is no lesion of any kind in the tissue of the organ; but the most serious disorder, that which in all probability caused the fatal result, is an enormous invagination of the small intestine, which is also in a state of gangrene. The invagination was no doubt produced by the frequent efforts made by the animal to go to stool.

ON

ENCYSTED DROPSY

OF THE

THYROID GLAND,

(Commonly called Bronchocele, or Neck Wen,)

WITH A METHOD OF

OPERATION AND CURE;

AND CASES TREATED SUCCESSFULLY AT THE LEDBURY DISPENSARY.

By CONGREVE SELWYN, *M.D., Cheltenham, late Surgeon to the Ledbury Dispensary.*

A FEW years ago I published, in the "London Medical and Physical Journal," a brief communication relative to a particular species of bronchocele, and a method of cure applicable to it, almost, if not entirely, unknown and unpractised in this country. My observations appear to have been overlooked by the editors of the recent "Cyclopædias of Medicine," and by no means to have had their full weight upon the minds of practitioners in general. On these accounts, and on account of the mode of practice which I have pointed out being indispensable to accomplish a cure in the specific cases, I have thought proper to resume the subject in a more detailed though concise form.

Two Species of Bronchocele.—Let it be understood clearly, in the first place, that I consider that there are two distinct and definable species of bronchocele:—

The first, the CELLULAR, consisting of an enlargement of the gland and its tissues, from increased secretion of fluid into the cells of which it is composed,—this species being most commonly met with, and supposed, in almost all cases, to constitute the disease.

The second, consisting not in many, but in a SINGLE CYST, in which, without any other change of structure in the gland, the fluid is collected in a sac.

Morbid Structure of the Cellular Species.—To define more fully and precisely both these species:—Mr. Thomas Prosser, who wrote in 1772 his "Account and Method of Cure of the Bronchocele, or Derby Neck," calls it an enlargement of the whole thyroid gland, in a pendulous form, like "the flap or dewlap of a turkey-cock's neck, when he is angry."—"It is soft, or rather flabby to the touch, and somewhat moveable; but when it has continued some years after the time of the growing, it gets more firm and confined." Prosser relates the post-mortem examination of a young lady, who took his remedies, the sponge and certain pills, under the advice of Sir George Baker, Dr. Hunter, and himself. Dr. Hunter, who conducted the examination in the presence of Mr. Cruikshanks and the author, ascertained the following fact:—"By examining the diseased gland with a glass, he perceived it to be enlarged, by a number of *cysts*, or bags of a *watery humour*, and, by puncturing the gland, water ran out; here we acquire, indeed, valuable information of the nature of this singular disorder." That this is, in fact, the morbid condition of the gland in the ordinary species of bronchocele, appears from the farther reports of John Hunter, Mr. B. Bell, and Dr. Baillie. These illustrious individuals saw that the morbid structure was an enlargement of the cells, containing a fluid more or less viscid; and Dr. Baillie thence concluded that the swelling depended upon a vitiated and increased secretion of the gland. Nor is the morbid inconsistent with the natural structure; for, according to Professor Macartney, of Dublin, and I suppose other anatomists, the gland is "cellular, and filled with a gelatinous fluid," in the healthy state. Of course, like all cellular structures, it is liable to increased secretion and hypertrophy.

Structure of the Simple Encysted.—So far for the compound encysted form; now of the simple encysted. From the preceding description, and the descriptions of almost all other writers on the subject, the disease seems to have been considered of the first kind only, that is, simple enlargement of the cells composing the gland, which is, by no means, the fact. During several years residence at Ledbury, where, as surgeon to the Dispensary, I admitted two thousand public patients annually, and conducted also an extensive private practice, I had opportunities of seeing very many cases of this disease. My attention was drawn particularly to an *encysted* species, in which, without any other change of structure in the gland, fluid is collected in a sac. In these cases, as it appears to me, the gland, or a portion of it, is converted into a cyst, which varies in magnitude according, of course, to the quantity of its contents. It is enlarged sometimes at one side only, sometimes throughout its whole substance. The bulk, as in Alice Treherne's case, may be so great as to compress the trachea, and impede respiration, almost to suffocation. (*See plate.*) In the case of an aged woman at Marcle, near Ledbury, the tumour was of the size of a child's head, and hung down to her thorax. It was my wish to have punctured it, but her consent was refused.

This Species not detected.—When that highly eminent surgeon, the late Mr. Thos. Blizard, was living in retirement near Ledbury, I requested his notice of one of the cases. He admitted that such cases must have come before him in his practice at the London Hospital, but escaped his discrimination.

Upon some conversation with Sir Astley Cooper upon this subject, he favoured me

with the following case, the original notes of which are in the possession of Sir James South, of Kensington:—

"A girl, 19 years of age, was admitted into Guy's Hospital, with an encysted tumour in the neck, from which ℥xxiiiss. of serum were discharged. The cyst was injected with sulphate of zinc, ℥j., to 0j. of water; adhesive inflammation was brought on, and she was perfectly cured. In another case, in which the tumour extended under the clavicle, it was cured by a tent of lint introduced daily." Sir A. C. remarked to me, respecting this second case, that suppurative action was set up; the child was two years of age, and the symptoms of constitutional irritation ran so high that he thought the child would have sank.—(*Communication made Nov.* 3, 1835.)

When Sir Astley Cooper, of whose school I was a pupil, came down a few years since to Ledbury, to a consultation upon the case of a patient, an opportunity was afforded to me of mentioning the subject to that illustrious surgeon also, and his reply was, that he "had a slight recollection of some similar cases."

Contiguous Cysts remarked.—Certainly some writers speak of cysts, but as constituting a disease juxtaponent, but distinct from the thyroid gland itself. Baron Alibert has noticed the existence of a voluminous cyst formed *around* the compound bronchocele, filled with a pultaceous or purulent matter; and Postiglione has observed a swelling which is sometimes encysted, and filled with matter of various degrees of consistence, resembling honey, and, in some instances, with air, constituting *emphysematous bronchocele*. To quote the most recent authorities, Dr. Copland† observes:—"The gland may be either healthy, or but little enlarged; the tumour consisting chiefly of thickened *surrounding* cellular tissue, sometimes *containing cysts*, filled either with a serous, albuminous, or purulent matter. Large encysted tumours may also form in the course of the trachea. But these may be readily distinguished by their situation, form, and fluctuation,"—a facility attaching, by no means, to the species of which I am speaking. "In addition to these spurious or complicated cases of bronchocele," says Dr. Andrew Crawford,‡ "there are other instances in which the *gland itself* is healthy, and the tumour consists of condensed cellular membrane, sometimes interspersed with cysts." So far, though vaguely, the encysted character has been alluded to in relation to cases different, I presume, from my own. The hæmatoma, or blood-cyst, of the thyroid gland, a membranous sac, supplied on its surface with blood-vessels, from which blood or a bloody fluid, so much coagulated, from containing a proportion of fibrine, as to "resemble the spleen, or a mass of clotted blood," is incessantly oozing, or distilling by exhalation, has been described by Monteggio, and is found usually in the *substance* of the thyroid gland, the filamentous tissue of the arm and neck, and at the knee. Mr. Hunter says, "Hydatids are not uncommon in the necks of women. They are often seated in the thyroid gland. They are sometimes of the first kind, at others of the second, containing glutinous or other kind of matter, hair, &c. †

"I have thought the disorder," observes Prosser, "a kind of *dropsy* of the gland; * * * * I have long ago mentioned to Dr. Hunter, and other medical gentlemen, that I thought this disorder and the dropsy of the ovarium similar diseases, excepting only their different situations: but I learn from Dr. Hunter that the dropsy of the ovarium, in common, does not take place till the decline of life. Sir George Baker is of the same opinion; but yet it is not peculiar to old age; and then our argument for considering the bronchocele and dropsy of the ovarium as kindred diseases, stands thus:—both diseases are peculiar to women; they frequently happen about the same time of life; both diseases, in their increase, observe the same slow progress; both diseases are of the dropsy kind, and both alike encysted. Whether the same remedies that prove so certainly efficacious in the *one* will affect the *other*, I can say nothing from experience; the *dropsy* of the ovarium, from its situation, is, for a time, hid from observation; and, as perhaps, for a time also, it does not affect the health of the patient, no symptom of its existence appears until it is far advanced. This circumstance, however, does not preclude the effect of medicines. Sir George Baker, to whom also I mentioned this matter (thinking the subject highly meriting, and wishing to have, the opinion of abler hands), does not think the disease of the thyroid gland originally water."

If there be anything in these constrained analogies, they must apply with more probability to the encysted than to the cellular species; ovarian dropsy and dropsy of the thyroid certainly meet at this point, that both resist medical, and are curable only by operative, proceedings.

As other tumours occur about the neck, to know whether it be or be not the thyroid gland which is the seat, the patient should be directed to swallow his saliva, and if the gland ascend in that act, it leaves no doubt that that organ is the structure affected.

The Encysted not Easy to Distinguish.—It needs nice discrimination to ascertain the

† Dictionary of Practical Medicine.
‡ Cyclopædia of Medicine.

† From MS. notes of Mr. Hunter's Lectures, communicated by a friend. See also "Good's Study of Medicine," vol. v., p. 316 to p. 322, for miscellaneous information.

existence of fluid in a sac, and so distinguish the *encysted* from the *cellular* wen. Upon this point I can submit no rules, all must be left to the *tactus eruditus* of the surgeon. When I have been myself in doubt I have made a small exploratory puncture, with a fine trocar, or with Mr. Hey's needle. It is proof enough of the obscurity and difficulty of these cases, that they existed undiscovered by surgeons of Mr. Thomas Blizard's character and eminence.

When Removal is desirable.—The removal of these tumours is important to those affected with them, who are chiefly females, not only on account of the unsightliness and disfigurement produced in a conspicuous and often ornamental part of the person, but because of the many morbid actions which are either connected with, or excited by, them.

Bronchocele connected with, or the Cause of other Diseases.—Dr. Parry saw five cases of bronchocele coincident with what appeared to be enlargement or palpitation of the heart. "Enlargements of the thyroid gland," observes this distinguished pathologist, "are not uncommon in females about the period when the body is fully formed, and the menses are in a sort of wavering state. After both these points are completely established they generally disappear, if the health is otherwise good. * * It is, indeed, true that these swellings occur most often, and in the greatest degree, in young females who have led sedentary lives, and who are of what are called relaxed and nervous habits, in which, according to the principles which I have already endeavoured to establish, there is a propensity to morbid determinations of blood, more especially to the head. Much the worst cases of the kind which I have seen at that age, have been so accompanied; and, in more than one of these, the affection of the head has amounted almost to madness. As the determination to the head in these cases has been removed, either by evacuants, by bodily exercise, or by the spontaneous salutary changes in the constitution, the bronchocele has also ceased.† I do not deny that, in some examples of this kind, the patient has remained subject to the determination to the head, even after the bronchocele has disappeared; nor is there any reason why this should not happen, unless the bronchocele were the cause of the determination, which is not presumed. On the other hand, cases of bronchocele have been observed to occur in the Nalais, as above remarked, and also in England, without any conspicuous symptoms of too great determination to the head. Still, however, the coincidence is so frequent and remarkable that one can scarcely avoid suspecting that the thyroid gland, of which no use whatever has hitherto been hinted at by physiologists, is intended, in part, to serve as a diverticulum, in order to avert from the brain a part of the blood, which, urged with too great force by various causes, might disorder or destroy the functions of that important organ. This notion, however, I offer merely as a conjecture, which future observation may either establish or annul."† There are few medical men, who have seen much of female cases, that have not observed, more or less, the circumstances which Dr. Parry has described. The incident of the throat becoming large at one time, and then diminishing to its natural proportions at another, in connection with irregularities of the circulation, is not uncommon to young women in ill-health, who seem to have a tendency of the thyroid to fulness.

Another physician has remarked, with considerable support from experience, that bronchoceles are seldom unconnected with some kind of irregularity of the menstrual discharge, or disorder of the uterine functions, which exists during the continuance of the bronchocele, and they are said to interrupt pregnancy (*Dr. Copland*).

If bronchocele is in very many persons a mere local disease, without any ostensible consequences, so is it often an exciting cause of much constitutional disorder. It has produced palpitations and irregular and intermittent affections of the lungs by disordering the respiration sometimes to a fatal extent (*Flajani*); in cases of great enlargement, it impedes respiration, deglutition, and the return of blood from the head by its pressure, thus occasioning hoarseness, wheezing, flushings of the face, headach, giddiness, and, in some instances, even death (*Dr. Andrew Crawford*). Sometimes it produces merely a slight difficulty of swallowing; in other instances it augments in size, and becomes dangerous from its pressure on the neighbouring parts; or it inflames, forms a large abscess and bursts. Enlargement of the left lobe is more dangerous than that of the right (*Professor Burns*); it generally occasions, by the situation and nature of the complaint, a difficulty of breathing, and very much so on a patient taking cold, or attempting to run or walk fast; in some the tumour is so large, and so much affects their breathing, as to occasion a loud wheezing; but we meet with many exceptions to this general rule. Some shall have the disease in an aggravated degree, and suffer but little by it; in others, though the enlargement of the gland is not near so considerable, yet they suffer much more from it;—the opulent who have the complaint in a considerable

† Prosser has noticed its connection with the menstrual period, and occasional disappearance, when small. "If the tumour of the neck is but inconsiderable at the breaking out of the menses, it sometimes, by degrees, goes quite off, and often this change in the constitution does not seem to affect the tumour of the neck, but it continues to grow as before."

† Parry's Posthumous Medical Writings, Vol. II., p. 127.

degree, will be rendered incapable of enjoying life,—the poor of getting their living (*Prosser*). Mr. Coxe saw the disease in the Goitron districts; it gives rise, he says, to stiffness of the neck, a slight degree of continued pain, and frequently a depression spirits. The sufferings of the patient are increased by a cold, and almost every other infirmity. Women are more frequently and more severely affected by this disease than men, feeble than vigorous persons, and children than adults. When the patient continues in the same place, and in the same habits of living, by which it was produced, it generally increases; but if he removes to a part of the country where it is unknown, it not uncommonly decreases, and sometimes disappears. He investigated bronchocele throughout Europe, and found it only in those countries where the soil is calcareous, and where tuff or tufa is dissolved in water in a state of extremely minute division. His theory, founded on this fact, is that the tufa, in this minute state, is deposited in the gland, and excites, by irritation, the secretion of the viscid fluid natural to the gland, by which the gland is unnaturally distended and enlarged. Tufa has been taken from these glands. The cure is to remove the patient, and not to use the water, unless distilled or mixed with wine and vinegar, which is found a preservative. † Professor Dwight, in his "History of New England," says that Mr. Coxe's remarks are confirmed by the origin and history of the disease in the United States.‡ Dr. Sacchi also considers calcareous water a cause of bronchocele, which, he says, is often cured by change of air, and sometimes undergoes partial softening (*ramollisement*). For my part I have noticed, as I before hinted, the concurrence of bronchocele with uterine irregularity, and affections of the respiration and circulation, and seen, indeed, all the symptoms produced by the local and mechanical pressure of these tumours.

Not a Disparagement of the Person in some Countries.—Though the disfigurement is not one of the least objections to it in this country, it seems, on the other hand, to be esteemed an ornament in some other countries. "It is a question in France whether it is not an imperfection to be without this disease, and in Tyrol they allege it passes for an ornament. In places where it is common to everybody, the men and women dispute about beauty according to the regularity and advantageous disposition of the swellings which they carry. The Tyrolese, indeed, treat with the opprobrious appellation of *crane-neck* those of their neighbours, and even strangers, who have not this kind of swelling. An Englishman travelling in this country, attracted the notice of everybody by his figure, but he seemed to want one great requisite of beauty,—'What a handsome man!' said they, 'if he had but a fulness of the neck!'" †

Cellular curable, and Encysted incurable, by Medicine.—Tapping and Seton effectual in the Encysted.—As I before observed, whatever may have been the power of remedies over the *cellular* bronchocele, which Prosser calls the natural and *curable* bronchocele, they have exerted no influence, in my practice, over the *encysted* species. After the discovery of that species I adopted a method of treatment, by tapping and seton, which, so far as I can learn, has been unpractised in this country in *that form* of the disease. I am happy to acknowledge that I was indebted, in the first place, for the suggestion to Mr. Thomas Blizard. Prosser seems to have caught a glimpse of the principle by analogy. "Mr. Pott, indeed," he says, "cures another kind of dropsy, the hydrocele, *with a seton*, a kind of *tapping* of the disorder." I was not aware of Flojani's practice, when I first published two cases in 1828, nor, indeed, till I was writing this essay, though it is mentioned in Mr. Samuel Cooper's valuable "Surgical Dictionary." Flojani makes an opening with a trocar, but observes that this plan is liable to be followed by relapse, when the cyst is very thick and hard, in which case he has found it necessary to have recourse either to an incision or seton for the purpose of exciting suppuration. He considers the seton as the least dangerous of all methods of radical cure; but if the disease be composed of one cyst of moderate size, he recommends its entire removal. The seton is mentioned also in a French Medical Cyclopædia of 1790, "as being eligible, where the disease is conjoined with a cyst." The method by seton, in the case of cellular or compound bronchocele, a quite different operation, and very precarious, has been known and occasionally practised ever since the middle of the last century by many eminent British practitioners, and Callowsi, Gerard, Richter, Foderé, Alibert, and Quadri, of Naples, on the Continent.

Injection not Successful.—Before I adopted the seton in encysted bronchocele, I tried the method by injection upon the analogy to hydrocele; but instead of there being, as in the scrotum, two coverings of the cavity, a close and reflected—(tunica vaginalis testis et reflexa)—which come in contact with each other, the sac of an encysted wen has only one common surface, which expels the fluid as soon as it is thrown in, and, not touching at all points, receives a too slight and fleeting impression from the injection to be stimulated to adhesive inflammation.

I have opened with caustic and injected the sac, but failed in every case but one by

† Coxe's Letter from Switzerland, XXV.
‡ Vol. VI., p. 107.

† Girard, Traité des Loupes, p. 469.

injections: that single instance being the bronchocele of Mrs. Cormac, the wife of a joiner at Worcester, who had been treated with the usual remedies by the late Mr. Carden, of Worcester.

Since these cases occurred it appears that Mr. Martin and Dr. Henry Goodeve have succeeded,—the former in scrotal hydrocele, the latter in encysted tumour of the side of the neck—with iodine injections, consisting of three grains of solid iodine and one drachm of hydriodate of potash, to six ounces of water.—(See LANCET, Vol. I., 1838-9, p. 55.)

Mode of Operating.—I proceed to the operation in this manner:—An assistant grasps the tumour on both sides, pushes it forwards, and renders it as tense as possible; I then introduce, at one side of the tumour, a fine and small trocar, about two inches in length by one-eighth of an inch in circumference, with a canula to draw off the fluid. In the first instance I used a probe, with a trocar point, to introduce the silk, but I have employed, latterly, a common stocking-needle, armed with one or two threads, and carried it through the canula and out at the opposite side. The period required for the cure is various, according to the bulk of the wen, the state of constitution, disposition to healing, and other obvious circumstances. I have never failed, as yet, by this plan of treatment in a single case.

The value and efficiency of a novel plan is impressed most forcibly on the mind by a series of cases, but the urgencies of a fatiguing practice, in which I journeyed day and night for several years, frequently at the average rate of forty miles in the four-and-twenty hours, left me no time to fill up the blank pages of a case-book. Some examples, however, I have preserved.

CASE 1.—Alice Treherne, a girl about 18 years of age, who lived in the parish of Bosbury, Herefordshire, came to me with encysted dropsy of the thyroid gland. The tumour was so large that it compressed the trachea and impeded respiration, sometimes almost to suffocation, particularly when she was lying in bed, or had caught cold. (*See Plate.*) Her constitution was sound, and her general health not impaired in other respects. In the first instance I opened the sac three or four times with the trocar and canula, and let off from x. to xii. ℥ of fluid; I then employed the mineral caustic (*potassa fusa*) to effect an opening, upon the same principle as in hydrocele; I made several applications, and removed the slough produced by each preceding application with the dissecting forceps, before I could penetrate the sac; a common poultice was applied, and the suppurative process allowed to go on in the sac, but I was obliged to dilate the orifice before the sac began to granulate and heal; the mercurial and iodine ointment was applied, after the discontinuance of the poultice, to remove the remaining thickening, and a permanent cure was effected, without leaving any other blemish than an inconsiderable scar.

CASE 2.—Thomas Stevens, a boy, æt. 14, farm servant of Mr. Cummins, of Dymock, Gloucestershire, had an enlargement of the right side of the thyroid gland, which interfered very much with respiration, particularly during exertion. On examination, that side of the gland was found converted into a thick cyst. I took the opinion of Mr. T. Blizard upon this case. The small trocar and canula were introduced, and six ounces of fluid, by measure, evacuated. The lad was desired to attend again in a week; but the sac, as we had anticipated, had filled again in four days, and become of nearly the same magnitude as in the first instance; it was repunctured, and a seton passed across it, and allowed to remain, with the intention of effecting suppuration and obliteration; but the suppuration, which was very copious, by its confinement in the sac, was productive of constitutional irritation; I then withdrew the seton, and afterwards laid open the cavity with a bistoury and director, to the extent of one inch and a half; and, on passing my finger into the wound, I found the cyst remarkably thick and partly ossified. I removed the seton before I made the opening, with the expectation that the irritable action would subside, but it continued, and dilatation became necessary; the sac, after this step, was soon obliterated, and the lad has continued perfectly well ever since.

Case 3.—Wm. Bubb, æt. 18, from Holles Greeves, near Preston, Gloucestershire, entered the Ledbury Dispensary as a patient in 1824-5 for relief of bronchocele; he was also affected with irritation of the bronchial membrane and cough, and anasarca, with a tendency to general dropsy, for which disorders he had been an in-patient of the Gloucester Infirmary. Mr. Blizard examined the swelling, and was of opinion that it contained fluid, and directed the whole treatment pursued throughout. I introduced the trocar and canula used in hydrocele, and half a pint of clear watery fluid escaped from the sac. In about a month or six weeks the fluid accumulated again, and I evacuated the same quantity; to prevent any return of the disease I introduced a seton of six threads of silk with an eye-probe into the aperture of the canula, and passed the probe in the canula to the opposite side, which I cut open with a lancet; the probe was withdrawn and the seton left behind, by which inflammation and suppuration were excited in a few days; he wore the seton for several months without any occurrence of constitutional irritation. The pulmonary complaint and anasarca were treated with *pil. scillæ. c. hydrarg.*, and he recovered from both the local and general disease under the above unfavourable circumstances.

I may repeat that I have so treated at least a dozen cases with invariable success, and in some of those cases had to contend with complications from which the constitution was seriously suffering.

Above Method of Treatment not known.—Of my own knowledge it is matter of fact that great numbers of bronchocelous patients are discharged by medical men uncured from hospitals, infirmaries, dispensaries, and from private care, through ignorance of this method of treatment. (When Mr. Blizard was visiting in Derbyshire, were wen is indigenous, and has given a name to the disease, he stopped for a while at an hotel, and there observed a servant with one of these swellings, which he examined, and found distended with fluid. In an interview with her medical man he mentioned the cases which had occurred at the Ledbury Dispensary; the surgeon informed him that he thought there were a hundred such cases in the neighbourhood. Mr. B., before he left the county, put him in possession of the mode of cure.)

With this impression I shall feel gratified should I succeed in directing attention to a permanent method of curing a great deformity, which is not unfrequently a source of disordered health to a serious degree.

ANEURYSM OF THE INNOMINATA,

SUCCESSFULLY TREATED BY

LIGATURE OF THE CAROTID AND SUBCLAVIAN ARTERIES.

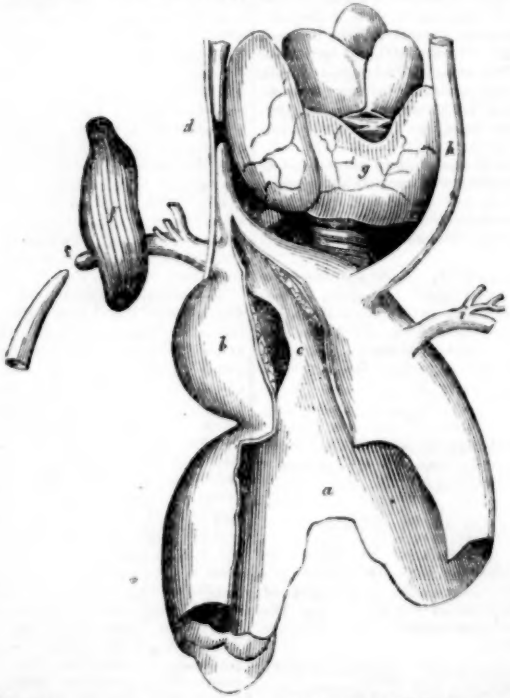
By S. W. Fearn, *Esq., Surgeon, Derby.*

I request the favour of a space in your excellent Periodical to announce the death of my patient, Mary Scattergood, upon whom I have twice operated for aneurysm of the arteria innominata, once by placing a ligature on the right common carotid artery, and, on a second occasion, after an interval of two years, by tying the right subclavian artery. The particulars of the case are given at length in the Numbers of The Lancet for October 15th, 1836, and August 25th, 1838.

I received a letter last week from Mr. Clark, an intelligent practitioner residing at Fazeley, where the woman latterly had been living, informing me that she had died, after a ten days' illness, of pleuritis, and I have since been there and examined the body. I learnt from Mr. Clark, that the Sunday but one previously she had got very drunk, and, from falling out of bed three times, she had severely injured her side; she afterwards complained of pain below the right breast, and her medical attendant, considering that the pleura was inflamed, applied leeches and a blister, and administered such other remedies as he deemed proper. She appears, however, gradually to have become worse, and she expired on the evening of Wednesday, Nov. 27th.

The *necropsy* disclosed the following appearances:—The whole surface of the body was of an intense yellow-colour, indicating at once the existence of jaundice; there was much subcutaneous fat. On opening the chest, the lungs did not collapse; this was owing, chiefly, to recent pleuritic adhesions on the right side, and to adhesions of longer standing on the left; the left lung was crepitant and healthy; the pleural membrane covering the middle lobe, and the lower and posterior surfaces of the upper lobe of the right lung, was larded over with recent lymph, and the membrane was also red and vascular; the corresponding portions of lung were solid, exuding a bloody fluid of a muco-purulent character, and presented an example of the red hepatisation. The lining membrane of the windpipe and larger bronchial tubes was healthy in appearance; there was no water in the pericardium or pleural cavities. The heart was very unusually fat for the age of the patient (30 years); its valves, both auriculo-ventricular and semilunar, were healthy; the inner surface of the whole of the arch of the aorta was studded with small cartilaginous and ossific patches. The innominata alone

was the seat of the aneurysmal disease; it presented a globular tumour, an inch and a half in diameter, pressing upon the front and right lateral portion of the trachea, about an inch above its bifurcation, so as to lessen its diameter about one-third; this tumour, with the exception of a channel of the usual calibre of the innominata, was completely filled with a dense, organised, light-coloured fibrinous coagulum. The coats of the diseased artery had given way on their external and posterior wall; the right common carotid was permeable for about a third of an inch from its origin, and opposite the lower margin of the cricoid cartilage there was an interruption to its continuity where the ligature had been applied in the first operation. The separated portions of the vessel, which were distant from each other the fourth of an inch, were connected merely by cellular membrane; the upper portion of the vessel was impermeable to where the external carotid was given off; the right side of the thyroid gland was much larger than the left, owing, probably, to its increased nutrition from the enlargement of the inferior thyroid artery, in carrying on the collateral circulation; the subclavian artery was healthy; the branches of the thyroid axis were considerably enlarged; the main trunk was severed just at the external margin of the anterior scalenus, in the same way as the carotid. In the abdomen we found the liver harder than usual, and of a lighter colour; the gall-bladder was very much distended with bile; the stomach and intestines healthy; the kidneys presented an example of Bright's disease; they had a mottled appearance, showed much fat when cut through, and the secreting portions of the organs were almost entirely absorbed, the tubuli extending to their surface. There were numerous extravasated spots of blood upon the lining membrane of the pelvis of each kidney; there was nothing else worthy of observation.



a. Aorta slit open.
b. Aneurysmal tumour filled with coagulum.
c. Innominata slit open, showing site of rupture of the arterial coats.
d. Site of carotid ligature.
e. Site of subclavian ligature.
f. Scalenus anticus.
g. Thyroid gland.
h. Left carotid.
i. Left subclavian.

December 6th, 1838.

If we take into review the whole of the circumstances of the interesting case which has thus terminated, we cannot but arrive at the conclusion, as I observed in my last communication upon it, that the steps which were adopted for the relief of the patient were the means of saving her from an otherwise inevitable death; and we may further affirm, taking into account the post-mortem appearances above recorded, that the distal operation for aneurysm of a vessel so near to the heart even as the innominata, is abundantly sufficient for its cure. It is quite true, that in this case a considerable tumour remained after the operation, but the previously existing sac was so completely blocked up with the dense coagulum which Nature had employed for the cure, that there was no longer any risk of death from its rupture. Had the patient escaped the casualty which led to her death, and lived but a few years longer, it is more than probable, looking to what occurs in aneurysms seated externally to the great cavities, where a ligature has been employed, that the tumour, in this instance, would have disappeared entirely. I saw a case, a few years back, of aneurysm at the bend of the arm, produced by bleeding, which was treated by ligature of the brachial artery; the tumour, at the time of the operation, was as large as a man's fist; but though the progress of the disease was arrested by the operation, two years elapsed before the swelling was entirely dissipated. All this is owing, no doubt, to the imperfect state of organisation of the mass of coagulum, and to the almost total absence of absorbent vessels.

It may not be amiss to mention, that the patient lived two years and three months after the ligature of the carotid, and sixteen weeks and five days after the subclavian had been tied. The accompanying drawing represents the state of parts as they appeared after death.

FATAL HÆMATEMESIS.

ANEURYSM OF THE DESCENDING AORTA.

To the Editor of THE LANCET.

SIR:—If you deem the following case worthy of a corner in your Journal, you will oblige me by its insertion; the preparation, of which the woodcut is a faithful representation, is in my possession. I am, Sir, your obliged servant,

G. A. WALKER.

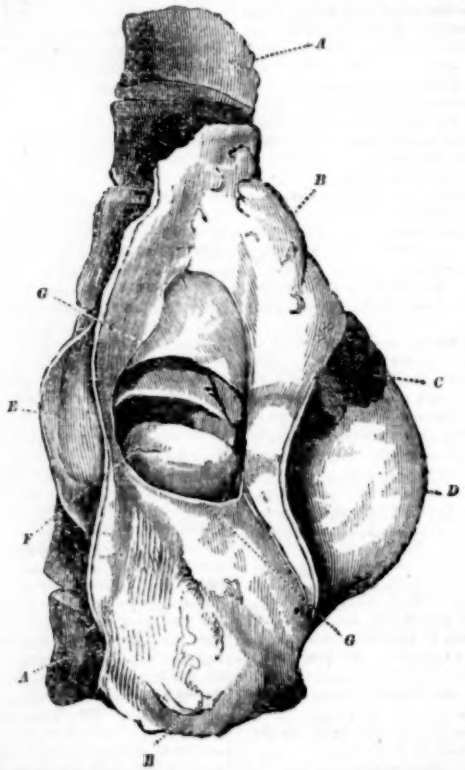
101, Drury-lane, Nov. 5, 1838.

Feb. 4, 1836, I was requested to see James Walkley, aged 54, at Messrs. Little and Co's., cloth-workers, White Hart-street. Upon arriving I found that he had vomited an immense quantity of blood. He was lying on his back in the room; blood in alarming quantity, presenting an appearance partly arterial, partly venous, mixed apparently with a portion of the contents of the stomach, was still flowing from the mouth: the quantity lost might amount to four pints. His countenance was extremely pallid and anxious; he was completely exhausted; the pulse was scarcely perceptible and intermittent. He complained of extreme pain in the head. He was placed in a semi-recumbent position, sent home, and a sedative draught administered. He had just previously been lifting a weight. Upon a particular examination I could discover no proof of the existence of disease in the heart, lungs, or the cavity of the abdomen. In the course of a fortnight he was sufficiently recovered to resume his employment.

Nine months afterwards I was again called to visit him at his house in Windsor-court, Strand. Another vomiting had taken place a few minutes before my arrival, and an enormous quantity of blood had been ejected,—certainly more than three quarts; this appeared unmixed with any ingesta, and had a bright florid hue. Sedatives were administered; cold applied over the region of the stomach. He recovered sufficiently, by the employment of tonics, to be able to resume his work in about a fortnight. I then lost sight of him, except as an occasional patient, for some months.

I saw him in April, 1837, in St. Giles's Workhouse, dead. It appeared that he was again attacked by vomiting in Holborn; a very large quantity of blood was lost. He was taken to a surgeon's in the immediate neighbourhood where he fell. Bleeding was attempted; he had in a few minutes ceased to exist. Interested in the case, I was anxious to verify or disprove my suspicion of some serious disease existing in one or both of the great cavities of the chest or abdomen. Some serious mischief must have existed, although undiscoverable by any means I could employ during life. I voluntarily attended the inquest held in the neighbourhood; the Coroner thought it perfectly unnecessary to examine the body; the Jury agreed with the Coroner; the hackneyed and too frequently abused verdict "Died by the visitation, &c.," was returned. On the poor man's person a will was found, requesting that I would examine his body, and "let all the world know, through the 'Morning Advertiser,' that he had lost one kidney." The source of this wish will appear as we proceed. I have been able to obtain some points of his previous history, however imperfect they may be, from the time elapsed since the *presumed* first cause to the fatal termination of the case; yet I believe they will be valuable as tending to elucidate some of the appearances presenting themselves at the post-mortem examination.

In the month of August, 1829, the deceased, in carrying a heavy burden of cloth, while attempting to avoid some vehicle passing at a furious rate, slipped from the edge of the curb, fell, and received a very severe contusion about the middle of the spine, this portion of the column striking the edge of the curb-stone; the weight being attached to the head, the impetus of the fall was considerably increased. He complained to those who conveyed him home, that his back was broken. Medical assistance was immediately sought; seven days afterwards he entered St. Bartholomew's Hospital under Dr. Clutterbuck. That gentleman adopted the antiphlogistic line of treatment, both topical and general. His bowels were with great difficulty acted upon; a dark-coloured bloody discharge was occasionally passed for some days. A retention of urine rendered the employment of the catheter necessary; the urine was for a considerable period deeply tinged with blood. Having remained in the hospital nine months, he returned home. Subsequently he became a patient at the Aldersgate-street Dispensary, and obtained some benefit. Two months after this period he entered St. Thomas's Hospital, and received much relief from local and general bleeding. Feb. 27, 1832, he resumed work; was much employed in walking. About this period he sustained a fresh injury over the spine, in the *immediate neighbourhood of the original one*. This was occasioned by wrestling with a comrade, who threw him heavily, the spine coming in violent contact with the back of a chair. His muscular exertions, which were very considerable, in-



A A. Vertebræ.
B B. Sac laid open.
C. Melanotic appearance of the left sac.
D. Left sac.
E. Right sac.
F. Carious vertebræ.
G G. Opening communicating with both sacs, presenting an oval and well-defined margin.

creased the original severity of this last unfortunate accident*. He again became an invalid. A few months afterwards he complained, *for the first time*, of a sensation of numbness in the lower extremities, as far as the groins. The upper limbs were of their natural temperature. Such only are the symptoms with which I have been able to acquaint myself, and I am ignorant of the treatment adopted.

Sectio Cadaveris, seventy hours after Death.

The body, of the middle stature, was muscular, and uncommonly well formed. The viscera presented the following appearances:—The lungs appeared in a state approaching to melanosis in some parts, gorged in their inferior and posterior portions, darker than natural, non-crepitating, but by patches elastic and healthy. The stomach and intestinal tube were in many portions (viewed in situ) too vascular; this vascularity appeared in irregular patches. The stomach was distended, and of a dusky chocolate hue over its entire surface; a patch of about four inches in diameter, of a deep purple colour, was seen through the peritoneal coat, and occupied its anterior cardiac extremity; one edge was in immediate approximation with the spleen, *which was healthy*. There was no deposition of fat on any of the viscera. The kidneys were perfectly healthy; the urinary bladder contracted; the liver of its natural size and perfectly healthy; the gall-bladder contained a small portion of inspissated bile. The heart was perfectly healthy, with the exception of a slight hypertrophy of the left ventricle. Wishing to ascertain from what source the large quantity of blood lost in the three periods of which I was cognizant had proceeded, I determined to inject the abdominal and thoracic arteries and veins. A pipe was introduced immediately above the bifurcation of the iliacs, and another into the ascending cava; ligatures were applied above, on both classes of vessels; a size injection was then carefully thrown up. The venous injection was perfectly successful, but the arterial one less so. Some time was allowed to elapse before the viscera were very carefully removed; the descending aorta was found the seat of a large aneurysm. The tumour extended from the body of the ninth dorsal to the second lumbar vertebra: the larger portion, situated to the left of the mesial line of the vessel, extended to the articulations of the heads of four or five ribs, with the transverse processes of the vertebræ, to which it was very firmly attached by the medium of an extremely thick membrane.

The aneurysm presents the appearance of two distinct tumours; the one to the left is the size of a large orange; at its upper portion the coats are extremely thin, rough, and friable; this portion (see woodcut) has well-defined edges, is about an inch in diameter, and produces an inky exudation. On the right side the tumour is about half the size of that on the left, attached to the heads of the ribs and transverse processes of the corresponding vertebræ by an extremely strong medium. The opening communicating right and left with the respective aneurysms is of a regularly ovoid form, the boundaries acute and well defined. Through this opening the completely denuded and deeply carious vertebræ, but still apparently healthy intervertebral cartilages, may be seen. The left bulging portion of the aneurysmal sac is entirely filled with a firm laminated coagulum; organised fibrinous depositions have rendered nearly impervious the descending continuation of the aorta; a probe can scarcely be passed from below to above. The aorta was now laid open from its origin to its termination in the femorals; its lining membrane, devoid generally of injected appearances, was transversely and longitudinally fissured, puckered in some places, apparently slightly deficient, and thickly studded in its whole length with ossific depositions; the lining membrane in many situations was lacerable on the slightest touch, and almost without effort could be stripped from the middle coat of the vessel. This friability of the arterial coats, easily perceptible to the finger on the application of the ligature to secure the pipe of the injecting syringe, induced a further examination in different situations; the brachial, femoral, and iliac arteries, were successively examined by dissection, and the ligature, and found to be in the same condition; the ligature, when drawn tight, gave a peculiar crepitating feel to the finger, very different to that of cutting through the healthy arterial coats. We have already stated that the heart was healthy in its external appearance; its internal structure was equally so, with the exception of a small bony deposition placed between the origin of the aorta and the base of one of the mitral valves. The œsophagus and stomach were now particularly examined; a slight injection of the mucous lining of the œsophagus, at its cardiac termination, was noticed; this extended two inches. The mucous lining of the stomach, over its entire surface, presented a very peculiar appearance; very minute portions of the size injection had passed, in many places, through its capillaries; a uniformly injected, extremely thickened, and pulpy state of its mucous lining membrane existed, from the œsophageal opening to the cardiac extremity; the patch, as noticed

* About three years afterwards he fell from a considerable height (eight feet), and again struck the spine; he suffered pain, but continued his work. Had this any connection with the production of the second aneurysm?

above, apparent through its peritoneal coat (in situ), was of a deeper vermillion colour, more easily lacerable, and at least a quarter of an inch thick; the slightest effort was sufficient to detach it from its connections with the muscular coat. The rugæ of the organ were not perceptible. The few shades of difference in the vermillion tint of the above-mentioned portion of structure, were gradually blended with the uniform bright and beautiful colour of the general mucous surface, which had the appearance of moistened red silk velvet. A little bloody serum was found, sufficient merely to tinge a linen rag; this might amount to a quarter of an ounce. With this exception, the stomach was perfectly empty; not the least portion of coagulated blood could be detected; it may be here mentioned that the ascending cava was enormously distended. The aneurysm was now carefully dissected from its surrounding connections, and a lock-saw employed to cut away the bodies of the vertebra just anterior to the spinal canal, leaving the spinal marrow untouched and the canal unbroken.

Observations.—This case affords materiel for interesting speculation. There was not present a single symptom during life that could indicate the existence of so serious a lesion. The diagnosis during his first treatment was incorrect,—aneurysm was not suspected, but inflammation and subsequent destruction of the left kidney was predicted; this the patient always believed. The treatment pursued, which, I doubt not, was exceedingly proper, failed, as it unfortunately too often will, in arresting the progress of the disease; whilst the unfortunate collateral circumstances,—anxiety of mind, and the necessity of attempting to support himself and family, by returning to a laborious occupation, and one, of all others, perhaps the least adapted to the existing and subsequent condition of the disease, would render his recovery, under any circumstances, extremely improbable. Aneurysms of the aorta, when deep-seated, are almost beyond detection, and unless a tumour present externally, we have frequently not a single diagnostic mark (as the present case proves) that would lead us to suspect the existence of so formidable a lesion.

Many cases are on record in which, although aided by the stethoscope, practitioners have been been totally unacquainted with the existence of aneurysm until the sudden death of the patient, and the subsequent examination have revealed the circumstance. Dr. Hope mentions a case in which a distinguished foreign auscultator failed to detect it, and many more might be adduced, were it not a generally received opinion that, in the absence of a pulsating tumour, we have no means of detecting aneurysm of the aorta. In the present case there was no indication of so serious a lesion, with the exception of a slight irritating cough, and occasional pain, referred to the back. The man's health was good, and he was enabled to continue for years his laborious occupation; he was frequently compelled to lift heavy weights, preparatory to doing which the chest must, of necessity, be fixed. Here was another powerfully exciting cause, independent of the mechanical obstruction and the general retardation of blood. The condition of the arterial tunics could not fairly be assumed to be the *effect* of the mechanical *cause*, it must rather be assumed to be one of those inexplicable changes of tissue known only as the result of a peculiar diseased action. There seems little room for doubt that the commencement of the serious disease, which ultimately destroyed our patient, was co-existent with the first accident; that the arterial coats, perhaps at that period seriously affected, would be more susceptible of diseased action, whether produced by external violent agency, as in this case, or by some one of those inexplicable causes not so easily appreciable. The discharge of blood from the bladder, as well as a presumed similar discharge from the intestines, led to the opinion that the kidneys had been destroyed; yet the post-mortem gave no such confirmatory evidence, *both kidneys were perfectly* healthy. Dr. Copland observes, "that, with respect to the origin of this lesion, it may be referred primarily to inflammation of the vessels; but various intermediate changes will necessarily have taken place, from the more immediate effects of inflammation to the complete obliteration of the vessel. It is probable that, in some rare instances, as in some large arterial trunks, the transverse rupture of the internal membrane of the vessel, with the consequent effusion of lymph and formation of fibrinous coagula, may so obstruct its canal as to give rise to its partial or total obliteration, without any aneurysmal tumour having formed; and it is not improbable that obliteration, or constriction of the canal, may have proceeded, in other cases, from the advanced stages of the deposition of fibrinous coagula, and the subsequent changes which had taken place in them, and the diseased coats of the vessel, having ended in obliteration and the establishment of a collateral circulation." Dr. Hope says, "that when an aneurysm is buried deep in the chest, and cannot be detected by the sight or touch, it does not present a single general sign that is peculiar to itself; there are even cases in which it occasions no functional derangement or inconvenience whatever, and the first circumstance that unveils the truth is the sudden death of the patient while apparently in the enjoyment of perfect health. We have met with six or seven instances in which large aneurysms had existed without awakening even a suspicion in the mind

of the medical attendant. We are acquainted with only one general sign of aneurysm of the thoracic aorta which is unequivocal and certain, namely, a tumour presenting externally, and offering an expansive, as well as heaving pulsation, synchronous with the action of the heart. Of the remaining general signs, a large class are identical with those of organic disease of the heart, viz., palpitation, dyspnœa, cough, tendency to syncope, terrific dreams, starting from sleep, hæmoptysis, livid or otherwise discoloured complexion, cerebral or hepatic congestions, serous infiltration, &c." The difficulty of forming a correct diagnosis on the case we are discussing would be increased by the age of the aneurysm, and the consequent deposition of fibrinous coagula which had nearly filled the entire sac.

During life I made, at different periods, careful examinations of the dorsal, lumbar, and exterior abdominal regions, as did several of my medical friends, yet we were unable to detect the existence of aneurysm. The state of the entire arterial tube, thickly studded as it was by bony spiculæ, from the superior origin of the tumour to the commencement of the aorta, must be borne in recollection; whilst from that portion of the vessel immediately below the termination of the sac I removed a circular bony ring of the size of the inner calibre of the vessel, and about three-quarters of an inch in length, was plugged by fibrinous deposit. This peculiar state of parts must necessarily, from the numerous obstructions it would present to the uninterrupted circulation of the blood, and the points of attachment it would offer to the circulating fluid, favour considerably the formation of coagula in the interior of the tumour, and this must have materially prolonged the life of the patient; for, without such a provision, the thin and very easily lacerable portion of the tumour, marked in the plate as the melanotic portion of the sac, must inevitably have given way, and produced extravasation, fatal, from its immediate loss to the circulation, or from the subsequent effects on the abdominal contents. We have evidence that at two distinct periods he lost enormous quantities of blood, from the effects of which he rallied in a most surprising manner; that, within a fortnight after each loss of blood, he was enabled to follow his employment as before. There, then, it appears to me, remains but one explanation for this circumstance: these large quantities of vital fluid were poured out gradually, most probably from the overloaded *capillaries* and exhalant vessels of the mucous membrane of the stomach. Faintness, in both instances, was the gradual precursor, with the usual concomitants; a sensation of a load in the region of the stomach; ringing in the ears, dizziness, &c. &c. The mechanical obstruction to the free circulation of the blood would primarily assist in producing the highly injected and thickened state of stomach discoverable after death.

We learn, from the patient's history of his case, that he had passed, during his first illness, considerable quantities of blood from the bowels, whilst the hæmorrhagic tendency of the mucous surfaces was further manifested by the discharge of blood from the bladder for some considerable time after the receipt of his first accident. The probability is, that, during the first formation of the aneurysm, blood was effused in such quantities as not to act as a mechanical irritant to the stomach, and thus produce vomiting; while, after the gradual increase of the aneurysm, during a series of years, an attempt at collateral circulation was *necessarily* set up, in consequence of the almost complete obliteration of the arterial canal for upwards of an inch, at the lower portion of the aneurysmal tumour. The attempts to carry on the circulation would be, of course, involuntary and continuous, and, except during the first months he was under medical care, uncontrollable, medically or dietetically; thus we may account for the disorganised condition of the inner coats of the stomach, and the loss of blood from the entire capillaries of this viscus; the venous and arterial retardation most probably producing more or less active or passive exhalation from its vessels. I think it highly probable that in the two first instances the loss had been more gradual to the circulation, and not so excessive in quantity as the last fatal hæmorrhage.

DREADFUL EFFORT
TO CURE
ELEPHANTIASIS AND LEPROSY
BY RECEIVING
THE BITE OF A RATTLESNAKE.

To the Editor of THE LANCET.

SIR:—I beg to offer for insertion in your valuable periodical, the accompanying case, which occurred on the day of our arrival in the port of Rio de Janeiro. The experiment was suggested, I believe, by a case which had been reported from the interior, where an accidental bite of the rattlesnake had terminated favourably. I remain, Sir, your most obedient servant,

R. WHITMORE CLARKE,
Assist.-Surg. R.N.
H. M. Brig *Opossum*, Falmouth Harbour,
November 28, 1838.

Masianno Jose Machado was bitten by a rattlesnake, for the express purpose of being cured of elephantiasis and lepra. The individual, who made this experiment, was a

white man, about 50 years of age, of ordinary stature, stout, and rather athletic in form; temperament, sanguineo-bilious. The kind of elephantiasis with which he was affected, was that denominated by Alibert E. leontina; it was in its second stage, and, according to the patient, no energetic measures had been employed in its treatment. Nearly all his body, as well as extremities, was insensible exteriorly; the cutaneous tissue was thickened, hard, its surface rugous, covered with tuberculous elevations, but none of them were ulcerated. Some pustules under the arms had a porriginous appearance. The characters of the disease were more apparent, and better developed on the face, the features of which were swollen, giving a disagreeable aspect, without, however, rendering it altogether hideous. On the extremities the skin and nails had begun to change in appearance, and the fingers and toes were altered in form. Whilst life and sensibility appeared almost extinct on the surface of his body, his interior yet retained the remains of his former energy, and he possessed a force of mind by no means common, and seldom found in one of his sad condition. Six years of dreadful and incurable disease, and four of seclusion in the hospital for lepers, had made him look forward to death as the only termination to his sufferings. No danger counterbalanced, in his idea, the desire he felt to be freed from his disease; he willingly risked the remainder of a life, under its continuance, for the slightest probability of recovery, and no Stoic ever expired more undaunted and indifferent than he did when aware of the fatal effects of his experiment. No opinion had the least weight against the determination he had taken; nothing intimidated, nothing deterred him. Having obtained leave to quit the Lazarus Hospital, he resolutely repaired to the house of Sen. Santos, physician to the hospital, to offer himself to the fangs of the venomous reptile, whose bite sometimes destroys life in a few instants, causing, immediately, tremors, convulsions, and the blood to issue from the different outlets of the body, and even from the pores of the skin. Having signed a declaration that the act was voluntary, and that he himself was alone responsible for its results, he boldly introduced his hand into the cage of the deadly reptile; it, at first, appeared to avoid him; he advanced his hand towards the snake; it looked inoffensively at him, and began to lick his hand. Two minutes passed in this repugnance on the part of the reptile to bite him. He now provoked the serpent, and seized it in his hand forcibly, and it bit him between the articulations of the ring and little fingers with the metacarpus. The bite was inflicted at 50 minutes after 11 in the morning of the 4th September. He felt no pain when bitten, nor effects from the poison introduced into the wound; he only knew that he was bitten when it was announced by the bystanders.

His hand was immediately withdrawn from the cage; it swelled slightly, and a few drops of blood escaped from the wound, but he felt no pain. The man continued perfectly tranquil; respiration natural, and his pulse regular. Five minutes after the bite; a slight sensation of cold in the hand.

12, noon. Slight pains in the palm of the hand, which increased after some minutes.

17 minutes past 12, noon. The pain extended to the wrist.

20m. The hand swelled considerably.

30m. The pulse became fuller. The patient all this time conversed in a lively manner, and even laughed.

50m. A sensation of fulness in the course of the jugulars; some alteration in vision; formication in the face.

55m. The sensation of fulness extended to the sides and back part of the neck; the hand continued to increase in volume, and the pain extended two-thirds up the forearm.

59m. Numbness over the whole body.

1h. 20m. P. M. Tremor of the whole frame; sensible to the touch.

36m. Cerebral disturbance; pulse more frequent: some difficulty in the movements of the lips; somnolency; sensation of constriction in the throat; pain more intense, and extending over the wholearm; increased intumescence of hand.

38m. Felt cold, and covered himself.

48m. Pain in tongue and fauces, extending down to the belly; increased pain and swelling in hand; coldness of feet.

2h. 5m. Difficulty of speech.

25m. Difficult deglutition; anguish; copious perspiration on the chest.

50m. Arms powerless; some drops of blood from the nose; increased anguish and inquietude; pulse 96.

3h. 4m. General swelling; involuntary groans; sensation of sinking.

8m. Pulse 100.

15m. Great pain in the arms; restlessness.

30m. Pulse 98; flushed face; continued bleeding from the nose.

35m. Drank a little wine and water without difficulty; his shirt was changed, wet with perspiration; intense redness of the whole body; some drops of blood escaped from a pustule under the arm.

4h. Pulse 100; redness of surface more intense, but of a darker hue, especially in the bitten limb; violent pains in superior extremities, preventing any rest, notwithstanding the exhaustion of which he complained; constriction of throat, and breathing embarrassed; inferior extremities and belly as yet not exhibiting any particular phenomena.

50m. Pulse 104; great heat over the whole surface of the body; salivation.

5h. 30m. Pulse in same state; torpor. It is remarkable that the urine has all along flowed in great abundance; saliva viscid, of a dark colour, and expectorated with difficulty; great muscular prostration; frequent groans, caused by pains over whole body; respiration tranquil; pulse full; skin soft; increased tumefaction of bitten hand. In this state he continued till

7 P.M. Some disturbed sleep, with groans; he woke, and said he was free from pain in the arms, but had great pain in chest, and a feeling as of a knot in the throat; urine copious; deglutition very difficult; saliva viscous and white; sanguinolent fluid running from the nostrils; offered a drink of water with rum and sugar, which he could not swallow.

8h. Sweating ceased; groaning not so constant.

30m. Passed urine.

9h. 10m. Passed urine; ceased to groan.

15m. Profound sleep.

10h. Administered the infusion of guaco; dose, three tablespoonfuls, with one of eau-de-luce, which patient refused, and took the simple infusion; sanguinolent secretion from the nose stopped; pulse regular; diminution of the tubercular elevations of both arms and face, presenting an appearance of erysipelatous redness.

20m. Patient passed about two ounces of tolerably perfect urine; remains more tranquil, and sleeps at intervals without groaning.

40m. Pains in chest diminished; pains in legs and feet, in which, until this time, there had been a sensation of death like cold; pulse regular, 108; thirst; patient drinks water without difficulty.

11h. Takes four tablespoonfuls of infusion of guaco.

45m. Emission of urine high coloured; drinks water easily by spoonfuls; pulse 119; the wounded hand and arm inflamed, and very painful; restlessness.

Midnight. Slept soundly, interrupted by eructations; pulse 112; passed urine.

30 minutes past 12. Patient very restless; his cries distressing; calls for religious consolation; refuses medicine.

40m. Again passed urine; pulse 116; sensation of great heat in the legs; desires the coverlet to be removed.

1h. Patient takes his medicine again; asks to be uncovered; passes urine; becomes more quiet.

15m. Passes urine; pulse 100.

40m. Takes a dose of infusion of guaco.

2h. Drinks three spoonfuls of water; sits up in his bed; every time he drinks, pain and restlessness increase.

10m. Passes urine.

30m. Takes his medicine; becomes more tranquil.

3h. Passes urine; the lower lip, which had been much swollen and inflamed, returns to its natural state; salivation ceases.

55m. Passes urine, the quantity always from ℥ij. to ℥iij.; is more tranquil; takes his medicine; pulse 110; involuntary movements of right thumb and left leg.

4h. Passed urine.

45m. Takes a spoonful of medicine; pulse 100; patient tranquil, and sits up.

5h. Passes urine.

30m. Passes urine; patient declares himself in great agony.

6h. Pulse 100; respiration free; frequent groans.

10m. Passed urine.

9h. 15m. Great prostration; convulsive movements of the lower jaw, as also of the lower extremities; urine bloody.

10h. Pulse accelerated and intermitting; increase of convulsions; diminution of swelling of limbs, and redness of skin; deglutition extremely difficult; respiration anxious. Applied blisters to the thighs; gave a spoonful of infusion of guaco.

50m. Convulsions diminished; administered enema of brandy.

55m. Cessation of convulsions.

11h. Remains in same state. Gave an ounce of oil of Laga, which he swallowed with difficulty.

30m. The patient expired.

In a few hours the corpse became livid and more swollen; at ten the following morning, eleven hours after death, the body was enormously increased in volume, and covered with red and livid spots, exhaling a fœtor so insupportable as to preclude the possibility of an autopsy as we desired.

DESTRUCTION OF A CHILD DURING LABOUR

BY

AN UNQUALIFIED PRACTITIONER.

To the Editor of THE LANCET.

SIR:—I should feel obliged by the insertion of the following case of malpractice in your excellent periodical of next Saturday:—

I forwarded a report of the case to the President of the British Medical Association on the 24th of last month, and attended, by request, the Council of that Association on Tuesday evening, the 27th, following. I find, in the report of that meeting, in your Journal of Saturday, December 1, that some notice had been taken of it; but, as it is very short, I think it my duty to lay the whole or principal facts of the case before the profession, without any other comment than that the individual to whom it refers in no way belongs to the medical profession, either by having obtained the Apothecaries' licence, or by having practised previously to 1815. I may assure you, Sir, that I have

no other motive in giving publicity to this, beyond the duty I feel to the profession and public, in showing the urgent necessity for that reform which is so imperatively called for by the daily practice of unqualified individuals, and the degradation thrown upon the profession by its permission, through the apathy of our Corporate Society.

On Friday, November 9th, 1838, at half-past nine o'clock at night, I was desired by the husband to attend upon Mrs. Hickey, residing at No. 8, Nelson-street, Hackney-road, who had been in strong labour from five o'clock in the morning of the same day, informing me, at the same time, that a Mr. John Baker, of Gretton-terrace, Green-street, Twigg Folly, Bethnal-green, was in attendance, but they were dissatisfied, and that his wife was in great danger; I immediately attended. On entering the room I perceived Mr. Baker sitting at the foot of the bed; on seeing me he appeared confused, and in the act of concealing something he had by his side, which produced a metallic sound, and gave me the impression that it was caused by instruments; from such, and other circumstances, I withdrew into an adjoining room, remarking, at the same time, that so soon as he was gone I would be glad to do my duty; the husband, by persuasion, got him to retire, after some difficulty (I may here remark, that I had not the least previous knowledge of Mr. Baker). On my going to the patient, I found her much exhausted; of a full plethoric habit; she was in a condition such as would be produced by long and severe uterine action upon a plethoric system; that is, a general turgid state, approaching to congestion. I then made a careful examination, and found a breech presentation with an unusual condition of the nates; the labia of the mother were much swollen, and so extremely painful as scarcely to allow me to introduce my fingers to make the examination. I considered it advisable to keep her tranquil for a short time, and directed her a little gruel; in half an hour I gave her a dose of the infusion of secale cornutum, which, in ten minutes, reproduced uterine action, during which I obtained a purchase with my fore and middle fingers over the groin of the infant, and effected the descent of the lower extremities, and in two minutes, at the utmost, the head was extracted. Observing the injured condition of the nates of the child, I felt sure that it was dead, and on that account did not hurry the extraction of the head, which could, without difficulty, have been done in less time, as the pelvis was capacious. On examining the mother the day following, I detected an extensive laceration, extending two inches up the posterior part of the vagina, and into the perineum. Inflammatory action became general at this period, in which the peritoneum, uterus, and vagina were the most implicated; I adopted a rigorous antiphlogistic treatment, and feeling very doubtful how the case would terminate, I deemed it advisable to call in Drs. Hawkins and Gavin, for their approval of the treatment I was adopting, and was fully supported by these gentlemen in the view I took, and the treatment I was pursuing; they felt, equally with myself, apprehensive of its fatal termination; but up to this date, December 6th, my patient is so far recovered as to leave little doubt of her restoration to health, though suffering much from the tardy amendment of the laceration in the vagina and perineum. I think it right to state, that Mrs. Hickey engaged Mr. Baker to attend her for 10s. 6d.; he was sent for at five o'clock in the morning of the 9th, and came at seven o'clock; was then shown a napkin, and said it was a breech case, and it would be a *dead child*; he remained about five minutes at this time; was sent for again at twelve at noon; he came, and staid half an hour, and returned at half-past four o'clock in the afternoon; he then sent for his instruments, and a little after five o'clock began to use them. From the description given by the female attendants, who had frequent opportunities of seeing them, they were forceps, being two, and alike; from this period up to half-past nine o'clock, with but very short intervals, he continued to use them; he was frequently most urgently solicited, both by the patient and attendants, to desist, but would not. Mrs. Hickey assures me, that she distinctly, and frequently, felt the movements of her babe up to seven o'clock the same evening.

Drs. Hawkins and Gavin assisted me in examining the body of the child, twenty hours after birth, and the following is a copy from the notes taken by Dr. Gavin:—"The child being placed in the same position as in utero, considerable swelling and dark-coloured purplish ecchymosis was discovered, extending around the genitals and sphincter ani, to the extent of three quarters of an inch on each side of the labia, being deeper and most considerable on the left side; the vulva appeared almost black; the right labium was torn along its whole length, the skin being attached on the inner side, and forming a flap; the left presented nearly a similar appearance; the orifice and a small portion of the vagina likewise presented appearances of ecchymosis, but the rest was natural; there were two small incised wounds on the right side of the sphincter ani, which corresponded with two others, more superficial, on the left side of the sphincter. The fourchette was completely divided by an incised wound, which passed from the upper part of the right side of the anus obliquely upwards to the left side, to the extent of an inch, having divided the intestine fully an inch, being more superficial at its other extremity. The rectum

was ecchymosed for nearly an inch, and presented two well-marked ecchymosed spots on the right side, at distances of an inch and a quarter, and an inch and three quarters from the extremity; these were ovoid; there was also ecchymosis in the textures situated on the anterior surface of the last lumbar vertebræ, but not extending into the gut. Ecchymosis was also perceptible, but not so well marked, about the right iliac vein. Extravasation was also very evident in the textures laying on the brim of the pelvis, at the right side of the symphysis pubis." In concluding this case, Sir, it is my opinion, and I have authority to state, that it is the conjoint opinion of Dr. Hawkins and Dr. Gavin, that the babe was destroyed before birth, by the unjustifiable use of instruments, and violence practised by the said Mr. Baker, and that the mother's life was nearly sacrificed in consequence. From the fact of the babe's death being caused in the manner just stated, I waited on Mr. Baker, the Coroner, and related to him the circumstances, believing that, from the manifest evidence of this malpractice, and destruction of the babe, it would come under his notice; he informed me, that no cognizance could be taken of the act, because the child was born dead, and that it merely became a medical opinion as to the probable cause of its death. With these statements of facts, I remain, Sir, yours respectfully, &c.

RICHARD WALLACE, Surgeon.
Hackney-road, Dec. 11, 1838.

DRUGGISTS' "PRINCIPLES AND PRACTICE OF MEDICINE."

"I have prescribed for thousands of children. In all similar cases I have prescribed the same medicine."—EVIDENCE.

AN inquest has recently been held at Liverpool on the body of a child, named Roberts, 14 months old, to whom a Mr. Tinker, a druggist, in Scotland-place, administered a medicine of his own prescribing, three days after which the child died. Dr. Weatherill,—acting with very proper sense and public spirit,—immediately brought the case under the notice of the Coroner. The mother made the following statement at the inquest:—

"About a week previously she had perceived the deceased, a boy, had the measles, and on the following night she observed the eruption was going in. She put him into a warm bath. On Wednesday week she took him to Mr. Tinker's shop. He gave her a powder and a bottle of medicine, and ordered two leeches to the chest of the deceased. No particular change occurred until the following morning, when the deceased became worse. The medicine was continued until the following day, the deceased still continuing to get worse, when Dr. Weatherill was called in. The deceased died on Saturday morning. Witness showed Dr. Weatherill the bottle of medicine received from Mr. Tinker.

"*Dr. Weatherill* deposed, that he was called to the deceased on Friday; found him in a dying state; inquired from his mother whether he had had any medical advice, and was told *she had been to a druggist*. Witness examined the medicine, and suspected it contained opium, but was not certain; there was ether in the mixture. Mr. Tinker had informed witness what the medicine was, and he (witness) considered the dose was an over-dose, and very likely to hasten death under the circumstances, but considered the medicine a good and proper one in some cases.

"*Edward Tinker*, being sworn, stated that he was a druggist of twenty years' standing. About a week previously Mrs. Roberts came to his shop with the deceased; she said he had the measles, and that they had gone in. Witness gave her a small quantity of calomel and rhubarb, and a draught. He had prescribed for *thousands of children*, and had had great experience therein. *In all similar cases he had used the same medicine*. The jury immediately returned a verdict of 'Died by the visitation of God.'"

In a correspondence which subsequently appeared in the "Liverpool Chronicle" on "Prescribing Druggists," Dr. Weatherill supplies the following remarks, which serve to render more complete the report of the proceedings at the inquest, and render additional comment unnecessary:—

"The circumstances are these: A mother takes her sick infant offspring to a druggist for his advice, the child being at the time, by the druggist's own admission, in great peril, labouring under most dangerous symptoms. The druggist prescribes and compounds certain medicines, which are administered. The child gets worse. I am called in, and pronounce the patient in a hopeless condition; it dies early in the following morning. The druggist's medicine is examined, and suspected to contain deleterious substances; this supposition is strengthened by the fact of the child having symptoms of a distrustful nature soon after it had been given. An inquest is instituted, of which you have already published a report. The medicine, it appeared, did not contain opium; but it contained tartar emetic, and this drug is known occasionally, even in very minute quantities, to have a most virulent, nay, fatal effect, when administered to infants: aware of this, the medical man, when he puts his young patients under its influence, cautiously watches its operation. These are the circumstances, and melancholy enough they are.

"The experience of the druggist in the treatment of the sick is obtained after this manner: a poverty-stricken female takes her child to his shop, says it has a cough, is very restless, cries all night, drinks a great deal, but eats nothing, and is wasting away. He looks at it across the counter, and, as a matter of form, feels its pulse; he prescribes, the medicine is compounded, the case is dismissed, and it is two to one that he sees his patient again—may-be he hears of his death. Now, this is just the kind of experience the *prescribing* druggist is in possession of; but the principles and practice of medicine are not learnt, and cannot be learnt in this way. Mr. Tinker may be, and is, respectable in his calling, and so are the druggists of Liverpool as a body respectable, perhaps as much so as are those in the trade in any other town of the United Kingdom.

"But who meddles with the tender fabric of the infant? The well-educated and most intelligent physician feels himself embarrassed, and prescribes in doubt; nay, I have known an individual of this class declare, from conscientious motives, his great reluctance to treat the complaints of small children. He felt his inability to do them justice. Who, then, is to meddle with the tender fabric of the infant? The druggist!"

Another correspondent of the Liverpool newspaper gives the following as the formula of the medicine given to the child:—

Liquor of ammonia, acetated, ½ ounce;
Spirit of nitre, 1 drachm;
Liquor of tartarised antimony, ½ drachm;
Simple syrup, 2 drachms;
Water, 1 ounce. Two teaspoonfuls every three hours.

ON

LUNATIC ASYLUMS AND ESTABLISHMENTS FOR INVALIDS

IN THE

North of Germany and in St. Petersburgh.

BY M. LEURET.

At a time when the condition and treatment of lunatics are attracting more than an ordinary degree of attention, the following remarks, from the pen of a talented French writer, cannot fail to prove interesting. We abridge them from the last number of the "Annales d'Hygiène Publique."

Before leaving France, on a tour of inspection through the North of Germany and Russia, I paid a visit to the hospital of Valenciennes. The aged, infirm, foundlings, and lunatics, are here congregated together in the same building; the latter, even when docile, are incarcerated in cells about eight feet square. There is no window in this prison, and the only air admitted enters through a hole in the door. I saw two idiots confined in these cells, with scarcely room to turn about in them. Close to the prison of the idiot my guide pointed out another cell of similar dimensions. On looking through the iron grating I distinguished, though with some difficulty, the form of a female; she was in a sitting posture, and immoveable. I concluded that she was insane, and knowing that the confidence of insane persons is readily gained by a few kind words, I spoke to her, in a soothing tone, a few words of comfort. The girl answered, but with a trembling voice. The poor child was a *deserter*. This term, it appears, is applied to foundlings, who leave, without permission, the establishments of the persons to whom they have been bound apprentice. The girl, whom I saw, had been confined for two months, and was to remain in prison for four months longer, without amusement or occupation; on bread and water. Three boys, 13, 14, and 18 years of age, were also confined in the hospital for a similar fault. The child of 14 years alone enjoyed the light, which traversed an immense window, in which seven panes of glass were broken. Thus exposed to the cold and moist night-air, the prisoner lay on a handful of straw, covered with a remnant of a sheet. The boy's crime was *desertion*, provoked, as he said, by his master beating him.

Having witnessed such a scene as this I left my native country without regret, and was ready to endure the spectacle of Russian despotism.

LIEGE.

Liege was the first city at which I stopped on entering Belgium; it possesses two hospitals, or rather *prisons*, for the reception of lunatics. The building appropriated to males was erected 325 years ago, and remains unchanged since the day of its foundation. Each wing of the building is three stories high, and all the outlets are carefully *grated*. The patients, 70 to 80 in number, congregate, indiscriminately, in a court 40 feet by 30; the sick-room is placed on the ground-floor, and contains four beds; the hospital is directed and the patients *treated* by six monks of the order of St. Augustine, assisted by five servants. Under such a system of things it were vain to expect any rational treatment of the insane,—none existed.

The female hospital was as badly conducted as the male one. The directress seldom or never visited the establishment, and the patients were entirely delivered up to the care of the attendants. The number of patients amounted to 72, of whom from 12 to 15 were epileptic.

AIX-LA-CHAPELLE.

From Liege I travelled to Aix-la-Chapelle. The lunatic asylum of this town is much too small; the ground-floor is occupied bya series of stinking, filthy cells, into which the less tractable patients are thrown; the sick are likewise compelled to inhabit these cells, lest they might contaminate the ordinary rooms, which are already sufficiently foul and ill-aired. The second floor contains a ward with fourteen crowded beds for the women, and a refectory; the third floor a similar ward, and eating-room for the men. The furniture of each cell is composed of a garde-robe and a palliasse, which is thrown upon the ground. The patients confined to bed are allowed the use of sheets, and, instead of a quilt, a feather coverlet. Such is the treatment of the insane at Aix-la-Chapelle. The physician of the hospital is one of the most learned in Germany, but his efforts are neutralised by want of co-operation on the part of the Government.

On my way to Hambourg I passed through Dusseldorf. In the neighbourhood of this latter town there is an asylum, which is carefully closed against visitors and strangers. Although the directors had refused me permission to examine the establishment, I presented myself at the gate, in the hope of finding the keeper more tractable; I was disappointed, but the attempt was not altogether fruitless. As I passed along the court-yard to the keeper's rooms, measuring my steps slowly, with the pace of one who is certain of a rebuff, I discovered a long corridor, upon which opened a number of dark and damp cells. The court itself was small and dirty; men and women were congregated together, and the *latrines* (water-closets) were common to both sexes.

I also visited the principal church of Dusseldorf, where the sexton showed me everything worthy of notice, and, amongst other curiosities, a choice collection of embalmed princes. The Duke of Volufiank-Wilhem, who died some two centuries ago, enveloped in his ducal mantle, and with a monk's hood on his head. Two of his daughters, once high and mighty princesses now diminutive mummies, three feet long, weighing about a pound, dessicated, fragile, and rusty. Another Duke, denominated John William, who used to carve out little saintly images from ivory, to distract his mind from state affairs. A few halfpence bestowed on the worthy sexton enable you to turn over and examine at your ease the relicts of these mighty potentates. How considerate of them to have had their bodies embalmed! Without this spectacle the traveller would in vain seek anything worthy of notice in the town of Dusseldorf.

HAMBOURG.

At Hambourg it was my good fortune to witness the realisation of an idea which has hitherto remained barren, viz., the restoration of young criminals to virtue and to society. The plan of education which has been crowned with so cheering a result emanated from Dr. Julius, the Howard of Germany. The necessary funds are furnished by the leading inhabitants of the town. About three miles from Hambourg, in a small village named Horn, may be seen a group of cottages, similar in appearance to those of the surrounding peasantry. In the centre is the principal establishment, of the most simple construction: to the right and left, ranges of cottages. The interior of each cottage is divided by modest partitions of wood; ladders supply the place of staircases; the furniture consists of bedsteads of unhewn wood, with a few articles of primary necessity. The house itself is enclosed in a well-cultivated garden, and the whole surrounded with a thick-set hedge which any child could traverse at pleasure. Young criminals, male and female, are received into this establishment from Hambourg and its vicinity; the only bonds which retain them are affection for their director, and the change, both moral and physical, which has taken place in their condition of life. Professed thieves, young debauchés, criminals of every description are, nearly without exception, restored to society in a short space of time. This wonderful regeneration is effected by the paternal care and assiduity of the director, Mr. Wichern. The moment a fresh inmate arrives he takes him into his own house, and keeps him constantly by his side for eight or ten days. The child is then placed in what is called "a family" or congregation of twelve children, under the direction of a steady man, who is capable of teaching them to read and write, and who has exercised some mechanical profession. Each family eats at a common table and sleeps in the same room. Children are received up to the age of twenty years; as soon as their reformation is supposed to be complete, they receive encouragement and assistance to enable them to establish themselves in the trade which they may have learned. It may be expected that I should explain the means of correction which are used in the Hambourg Asylum. None exist. Whatever may have been the faults or crimes of the children, when once admitted within the walls of the Asylum they are never punished; a word of reproach is never heard. Confidence in the good intentions of their director, hope, contentment, occupation, these act sufficiently on the minds of the young criminals, and it is seldom that any of the children think of leaving a refuge in which their days are passed so happily. Having witnessed in the Asylum at Hambourg the effects of love and charity, I was desirous of seeing the localities which furnish the young criminals. Parent-Duchâtelet had given us a vivid description of

those of Paris. It became a matter of interest to view the retreats of vice at Hambourg. I accordingly visited them all, and everywhere found the some hideous aspect. Instead of pleasure, drunkenness; instead of love, purchased caresses. The women of the town are subject, at Hambourg, to the same strict surveillance as at Paris. There is a curious coincidence between the relative numbers in both cities. At Paris, according to the calculations of Parent-Duchâtelet, there is one prostitute for every 206 inhabitants; at Hambourg one for every 205. I examined the book in which the women of the town are compelled to inscribe their names. It was covered with crosses, instead of signatures. Hence want of instruction and immorality are here intimately connected; a fact already demonstrated by the researches of Duchâtelet in France.

(To be continued.)

THE LANCET.

London, Saturday, December 15, 1838.

ANIMAL MAGNETISM.

We mentioned last week, on the authority of the President of the French Institute, the circumstance of a quack having effected the ruin of a young and artless female through the "mighty magic" of animal magnetism. Since then we have been informed that the seducer is in London, where, under the pretence of disseminating the knowledge of a new science, he is, probably, engaged in seeking fresh food for his libidinous propensities. Another example occurs to our memory: the Hospital St. Louis, in Paris, was once the scene of mesmeric absurdities, as is now an analogous institution in London. The chief actors were two young females, not quite so well trained, but fully as precocious, as the Misses Okey. The apothecary of the hospital was a man of strong passions, unscrupulous, and without moral principle. The result may be easily imagined. The Parisian Okeys were thrown into a state of real, or pretended, sleep, and the hospital was disgraced by a series of orgies which only occur amongst licentious enthusiasts. The question of mesmerism and its effects, is one which, in a moral point of view, admits of no debate. We speak advisedly, and we address ourselves more particularly to the heads of families,—to those unto whom the care of young females is entrusted. Were we to admit for an instant, the alleged effects of mesmerism; were we to grant that a few passes of the hand can veil the eyes in profound sleep, and deprive an individual of consciousness, who could shut his eyes against the dreadful consequences to society of the existence of such an agent? Mesmerism, according to its advocates, acts most intensely on nervous and impressionable females. What father of a family, then, would admit even the shadow of a mesmeriser within his threshold? Who would expose his wife, or his sister, his daughter, or his orphan ward, to the contact of an animal magnetiser? If the *volition* of an ill-intentioned person be sufficient to prostrate his victim at his feet, should we not shun such pretenders more than lepers, or the uncleanest of the unclean? Assuredly the powers claimed by the deluded and vicious followers of Mesmer will eventually prove their own ruin. In endeavouring to raise themselves above ordinary mortals, they lay claim to attributes and powers which must place them, for ever, beyond the pale of civilised society.

Should any persons doubt that in this country mesmerism has been pursued with the infamous purposes which we have indicated, we assure them that a physician in London, a man of high character and standing in his profession, was applied to, some time since, by several Russian officers of rank and fortune, temporarily residing in this country, for instruction in the art of putting persons to sleep, by mesmeric processes, with the express view, as it ultimately appeared, of exercising their newly-acquired knowledge in their own country, on unsuspecting females who might fall within their power. The "knowledge" was refused on discovery of its object, but what shall we say to a continuance of instruction in this scandalous "science" in the *private wards of one of our public hospitals*, where wealthy and, perhaps, libidinous

men, are daily invited to witness the easy mode of producing "sleep" which has been invented by one of the physicians? If we even reflect on the *excuse* for "going to sleep" which mesmerism affords to young and sanguine girls, we must condemn unsparingly the vicious imposition.

WEBB-STREET MEDICAL SCHOOL.

An advertisement appeared in the "Times" of November 29th last, proclaiming to the world, under the sanction of R. D. Grainger, Esq., that the "recent endeavours of the Worshipful Company of Apothecaries and the College of Surgeons to improve the character and prospects of the medical profession, were entitled to the approval and gratitude" of the students of the Webb-street Medical School. The history and independent character of this institution rendering it doubtful whether this announcement were not a fiction, and the name of "R. D. Grainger" a forgery on the present occasion, some inquiry was rendered necessary as to the genuineness of the advertisement, when the following facts came to light:—

About a month since, Mr. Lee, a member of the Webb-street Medical Society, announced that on Saturday, the 24th of Nov. he would read before the Society a paper on medical education. The declaration was fulfilled, and Mr. Lee, at the close of his address,—strongly impressed, we presume, with the importance of the subject before him, the deep interest of medical students in the adoption of a free and enlightened system of medical education in this country, and fully sensible that a change in the present corrupt plan of tuition was not likely to be accomplished without the usual efforts of an aggrieved body being made,—Mr. Lee, under these circumstances, on concluding a paper which abounded in facts to justify his views, moved, with good sense and honesty, some resolutions preparatory to the adoption of a petition to the Legislature in favour of a reform in the laws affecting medical education; and in this course he was seasonably supported by brother students who entertained the same opinions. But the chairman, Mr. Pilcher, considered that the proposal of resolutions was opposed to the custom of the Society, without previous notice, and, in consequence, the motion was reserved. A reporter of the daily papers however, was present, and on the following Tuesday, the 27th, the subjoined paragraph appeared in the "Times":—

"Medical Education and the University of London.—On Saturday evening a general meeting of medical students took place at Grainger's School of Anatomy, Webb-street, Southwark, for the purpose of discussing the existing evils in the present system of medical education, and to consider the necessity of petitioning the Legislature on the subject. Mr. Lee, and several other medical students, addressed the meeting at considerable length, complaining that the powers enjoyed by the medical corporations were exercised much to the detriment of the profession generally, and of students in particular, and that the examinations instituted by them, as they are now conducted, are no proper test of the qualifications of a candidate. At the same time the speakers did not cast aspersions on the able persons who were connected with the several corporations, but directed them wholly against the system itself. The University of London, too, it was said, had exposed itself to the severest censure; for, although based on liberal principles, the Senate had, since obtaining the charter, acted in a totally different manner, and enforced a curriculum of education on candidates for degrees, which went far beyond the general powers of persons so young as those on whom the degrees were to be conferred. In conclusion, a petition to both Houses of Parliament was adopted, praying for the remedy of existing evils in the medical profession."

The appearance of this report filled Mr. Grainger with horror and astonishment, and no secret was made of the fact; but two of the more immediate friends of that gentleman, students in the school, were employed to denounce "the mischief" that was done on Saturday, and urge that honourable amends should instantly be made to the Council of the College and the Examiners at Apothecaries' Hall, by an anti-reform meeting. The arguments in favour of this were too cogent to be resisted. The pure and public-spirited bodies with which Mr. Grainger had suddenly become enamoured, had not "recently" done so much for medical education, but that they still possessed the amplest means of revenge at their secret examinations of Mr. Grainger's refractory students; and accordingly another meeting was held, the proceedings of which were suitably announced in the following advertisement, on Nov. 29:—

"At a meeting of the students of the Webb-street School of Anatomy and Medi-

cine, holden November 28th, 1838, R. D. GRAINGER, Esq., in the chair,—

"It was resolved, That the discontent alleged to be felt by the students of this school, with regard to the authorities of the Worshipful Company of Apothecaries and Royal College of Surgeons, has been greatly exaggerated, and that this meeting cannot but notice, with *approval and gratitude*, the recent endeavours of those institutions *to improve the character and prospects of the medical profession*. It was unanimously resolved, That this meeting considers that *any petition to Parliament* with regard to the educational arrangements of the University of London would, at present, be *premature*, inasmuch as no curriculum has hitherto emanated from that institution, and the meeting feels it to be an imperative duty distinctly to disavow all participation in the mistatement which has appeared in the 'Times,' to the effect that a petition *should* be presented to the Legislature. That the preceding resolutions be advertised in the 'Times' and 'Morning Chronicle' newspapers."

It would be a gross libel upon the students of the Webb-street School to say that they willingly and cheerfully adopted the above sentiments. Such was the feeling and temper of the meeting, that Mr. GRAINGER thought it right to abate all objections to them by HIMSELF *authoritatively moving and seconding the resolutions*.

Placing these facts on record, we here, for the present, leave them.

CONDUCT OF

DR. GEORGE GREGORY

AT THE

SMALL-POX HOSPITAL.

To the Editor of THE LANCET.

SIR:—I am quite satisfied with the discretion used by you in the curtailment of my letter, in reply to Dr. Gregory; but as that gentleman's letter in THE LANCET almost amounted to a direct contradiction to my assertions, I would feel obliged by your inserting the whole or part of the accompanying letter. It shows that complaints have been made to Dr. Gregory *himself*, previous to my bringing the subject before the public in the pages of your Journal. I again assure you that the matter is one of great importance to the medical profession, and I hope that you will not lose sight of it until a *real reform* takes place. I will only add, that there is a class of people who are not easily put out of conceit with themselves, and remain, Sir, your's most obediently,

W. SIMPSON.

111, Guildford-street, Dec. 10, 1838.

From Mr. Chatto, Surgeon, to Mr. Simpson.

"15, Leigh-street, Burton Crescent,

"Dec. 4, 1838.

"SIR:—I can most fully corroborate your statements in THE LANCET, with reference to the supply of vaccine matter at the Small-Pox Hospital, having often suffered from the vexatious, and, frequently, the entirely unnecessary delays, not to mention the utter want of that politeness which should always prevail in the intercourse of medical men with each other. So strongly did I feel upon the subject, that last July I addressed a letter of complaint to Dr. Gregory, and in the reply with which he favoured me, I could discover neither reason nor excuse for the state of things being so different to what it was when Mr. Wheeler distributed the vaccine. The utter indifference which prevails there as to how much of one's time may be wasted, and the uncertainty of procuring any virus, after waiting, as I have done, for half or three-quarters of an hour, have prevented me from applying at the hospital for some time past. I am, Sir, your obedient servant,

"JOHN CHATTO.

"To Wm. Simpson, Esq."

"In the letter which I received from Dr. Gregory, he places great stress upon the fact, that while the Government officials are highly paid, Mr. Marson undertakes all the "labour" (!) of supplying the virus gratuitously. He does no such thing; for, doubtless, if the governors did not require this duty to be performed, the salary which they would give would be less; and, moreover, when Mr. M. undertook the situation, he was quite aware of what would be required from him, or, at least, he ought to have been."

MEDICAL WITNESSES' ACT.—SURGEONS OF WORKHOUSES.

———, Kent, Dec. 5, 1838.

SIR:—I am the medical officer of the ——— Union, and as such was recently summoned to give evidence touching the death of a pauper, who died in the house. The Coroner is advised that I am not entitled to receive a fee for my attendance, on the ground that the workhouse is a public

building. Will you be so obliging as to inform me if it was intended to exempt workhouses (as well as hospitals and infirmaries) from the operation of your very useful statute, the Medical Witnesses' Act. I have the honour to be, Sir, your obliged servant,

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To T. Wakley, Esq., M.P.

*** The person who has advised the Coroner in this case must belong to the family of the Wrongheads, and all non-medical coroners seem to form a numerous acquaintance out of that progeny. In framing the fifth section of the Medical Witnesses' Act, care was taken *not* to exclude the medical officers of the Union workhouses from the remuneration which they are so justly entitled to receive at inquests held before coroners. On reference to the Act it will be seen that the exception relates to *public* institutions, and county or other *lunatic* asylums. Had it been intended to exclude the medical officers of workhouses from the operation of the Act, *workhouses* would have been specifically mentioned. County and other lunatic asylums were named, because they are not public institutions. A workhouse is not a public institution, but is the property of the rate-payers of the Union in which it is situated, and the public have over it no control whatever,—have no privilege of admission into it, even as visitors,—and no person has a right to a maintenance in it, excepting he be sent there by the Guardians, who are the representatives of the rate-payers.

[The foregoing remarks were communicated, by private letter, to our correspondent, since which we have received a note from him, containing the following satisfactory statement:—"I copied the substance "of your clear exposition of the law, and, "having sent it to the Coroner, this evening "received a communication from him to the "effect, that he admitted the legality of my "claim, and would pay me the proper fee." We have suppressed the names of the parties and places, to prevent heartburnings and angry feelings, and only give publicity to the correspondence for the information of others among our professional brethren who may be similarly situated, as surgeons of workhouses, without feeling sufficiently assured of the justice of their claims. We are sorry to find that very many coroners seem determined to act most unjustly towards medical practitioners, as witnesses at inquests. The members of the profession, in return, should look keenly after those functionaries, and "report" to the magistrates in Quarter Sessions whenever an inquest is held *unnecessarily*. The "Report" may be addressed to the Clerk of the Peace. In auditing the Coroner's accounts the Magistrates are bound, as the distributors of the county rate, not to allow the fees for inquests unless the Coroner can show good cause for having held the same. If medical practitioners discharge their duty as they ought in this matter, the all-presuming non-medical coroners will be soon brought to their senses.]

DOSES OF THE

ACETATE AND MURIATE OF MORPHIA.

To the Editor of THE LANCET.

SIR:—The dose of the acetate of morphia prescribed by Mr. Bree averages half a grain, which I consider small. For the last three years I have used this, in preference to any other preparation of opium, and the *minimum* dose which I have ever administered to an adult has been half a grain,—the largest, two grains and three-quarters. In none of the cases has the patient been addicted to the use of opiates. The large doses have been exhibited where severe pain was an urgent symptom, and in inflammatory affections attended with great arterial excitement. In cystitis occurring in rather a delicate young woman, aged twenty-two years, I gave two grains and a half of acetate of morphia, mixed with confection of roses, and repeated the dose six hours afterwards, affording great relief, but not producing the least drowsiness, or any of the unpleasant effects which usually follow the administration of crude opium. In delirium tremens I have also administered two-grain doses. The patients have all done well.

The acetate of morphia appears to me to have a remarkable effect upon the pulse, reducing its strength materially; and on this account I am in the practice (where great debility exists, and the nature of the complaint permits) of administering, at the same time, a slight stimulant. At this period I have two patients, both delicate females, one aged sixty, affected with pleurodynia, the other with uterine disease, each of whom

takes one grain of the acetate, in the form of a draught, at bed-time, and this was the commencing dose.

In conclusion, allow me to observe that I think it impossible that half a grain of this preparation can destroy life in an adult, unless there exists some idiosyncracy of constitution, and am convinced, with Mr. Bree, that the bulk of two grains would prevent the possibility of its being used instead of half a grain.

The manner in which you have noticed the recent case in THE LANCET must be highly satisfactory to Mr. Arden and the profession generally; and, taking into consideration the circumstances attending the analysis of the draught intended for the deceased Mrs. Tweed, her friends may rest assured that death is to be attributed to natural causes, and not to the quantity of morphia administered. I remain, Sir, your very obedient servant,

GEORGE REES, Surgeon.

Fenchurch-street, Dec. 4, 1838.

To the Editor of THE LANCET.

SIR:—A patient of mine, an elderly lady, who suffers much from gastrodynia, takes every night the *muriate* of morphia in the quantity and form as follows. She has taken it for four years. She began with half a grain:—

℞ *Morphiæ muriatis*, gr. iss; *Pulv. per conf. arom.*, gr. x.; *Aq. pulegii*, ℥i. M. ft. h.

The same patient also suffers from severe strangury, when she takes, with instant relief, the following draught:—

℞ *Morphiæ muriat.*, gr. iij; *Mucilag. acaciæ*, ℥vj; *Aq. pulegii*, ℥vj. M. ft. h.

I have increased the dose to four grains.

You may make what use you please of this information. Yours obediently,

MICHAEL FOSTER,

Surgeon to the Huntingdonshire Infirmary.

Huntingdon, Dec. 3, 1838.

DR. THOMSON'S LECTURE ON HYPERTROPHY OF THE HEART.

To the Editor of THE LANCET.

SIR:—In THE LANCET of last week (Dec. 1), you have published a letter, signed "A PUPIL," which contains a criticism on a report of a clinical lecture of mine, contained in THE LANCET of the preceding week. In justice to your reporter, I must remark that his statement does not appear to me to imply that I considered the case of Gardener as *cured*. It was not cured, although it was very *greatly relieved*, the poor man being able to ascend the stairs of the hospital, and to take exercise, daily, without increasing either the impulse of the heart, or exciting such a degree of dyspnœa as prevented him, at one time, long after the ascites was cured, from walking the length of the ward without suffering. The case is marked in the hospital case-book, "Discharged relieved," and it never was my intention to affirm that elaterium, administered in any form, or in any combination, is capable of curing diseased structure, such as the *sawing* or *rasping* sound, in this case demonstrated to exist in the valves of the heart. The impulse of the heart was greatly allayed, and even the rasping sound was considerably less audible when Gardener left the hospital than it was long after the ascites was cured. Two patients, with simple hypertrophy, were last session dismissed in a much better condition than Gardener, arising from the beneficial influence of elaterium, administered in the manner adopted in his case. I remain, yours respectfully,

A. T. THOMSON.

University College Hospital,
Dec. 4, 1838.

CAUSES OF THE FAILURE OF THE VACCINE VIRUS.

To the Editor of THE LANCET.

SIR:—My brother vaccinators, in this neighbourhood, are in great perplexity in consequence of the failure, and daily increasing failure, of the expected effect of the vaccine virus. I suppose the same occurs in other parts of the kingdom. Permit me to offer a word of explanation on this point.

In Dr. Jenner's book, published in 1799, it will be found strictly enjoined that virus be taken on the fifth day, or the sixth, but on no account after the seventh; but what is the practice? I believe no one thinks of taking it before the eighth; at least I know it is the rule with all whose acquaintance I have; and I have been often supplied with it, by distant friends, in every case taken on or after the eighth day; in one instance, on the fourteenth. It may be said there is no vesicle on the fifth day. I know that virus taken late will not often produce a vesicle so early; but I know (and forty years pretty large experience might give weight to the assertion) that matter taken on the fifth day will invariably produce a good-sized vesicle on the fifth day, and that we shall not have to examine many inoculated arms, even when the matter used was as old as the eighth day, before we shall find one having a small quantity indeed, but most active, on the fifth day. But the objection is proved to be false and mischievous by the fact that Dr. Jenner says, take virus on the fifth day. We say there is none.

Is Dr. J. so ignorant of his subject? Dr. Jenner says, the fifth-day vesicle is the first and leading symptom—the characteristic mark—the diagnostic of the disease. The argument must be against us; we must see that our results are different from Dr. Jenner's, because our practice is different from his. Here, again, I can assert that we have no vesicle on the fifth day, because our stale virus has produced a spurious disease, not the Jennerian.

I know that virus taken on the fifth day will produce a genuine disease, and that if taken on the eighth, or after it, will not. I know that if the practice recommended be followed, it will prove prophylactic to the extent promised, though not in every case. Your humble servant,

G. BOARD.

24, Portland-square, Bristol.

DR. MAUNSELL'S LECTURE. DESTITUTION OF THE IRISH.

A CORRESPONDENT, under the signature of "J. T. H.," dating from Foley-place, and privately authenticating his communication, remonstrates with Dr. Maunsell on the following passage in his lecture in THE LANCET for Nov. 24:—

"Take, for instance, a case known to every Irish medical man, though not discovered by Mr. Nicholls in his six weeks' tour. Take the case of an infectious fever breaking out in one of those small villages into which the Irish peasants invariably congregate their dwellings—a member of one family is attacked; he, such is the *utter barbarism of the country, sleeps under the same blanket (not even protected by night-clothes) with his father, mother, sisters, brothers, sisters-in-law, and brothers-in-law.*"

In reply to these remarks "J. T. H." thus addresses the Doctor:—

"I am intimately acquainted with the manners and habits of the Irish; besides, my experience was strengthened by an apprenticeship of five years in connection with one of the first medical charities in Ireland, which gave me an opportunity of being daily brought to witness the most appalling scenes of misery and distress, and I must solemnly and distinctly declare that I never saw a case such as you say is 'known to every Irish medical man.' Since I read your lecture I made it my business to speak on the subject of its contents with some friends of mine here, Irish medical men, and they told me they never witnessed such a case as you say is so familiar. Besides, you must bear this is mind, that the Irish peasantry are well instructed in the principles of their religion from the time they arrive at the use of reason, which circumstance alone would be sufficient to prevent the occurrence of such a case as you say is so very common. * * * It is too true that in Ireland the unhappy peasantry are frequently expelled from their paternal dwellings by the agency of some ruthless and tyrant landlord, who may be squandering the fruits of the soil in Paris, or Naples, or some other town of continental luxury, where he may think it likely to find a fresh stimulus for his passions, or a new scene for his debaucheries; and, thus turned adrift on the world, homeless and distressed, they are compelled to collect into the next town or village, and, in order to shelter themselves from the piercing blasts of the wintry winds, they are glad to take up their quarters in some miserable cabin where a bed of straw becomes a luxury. Yet, in all this misery, an instance never occurs of the son sleeping with the mother under the same blanket, not even protected by night-clothes. What may be the case among the fair patronesses of the Wellesley, in Bow-lane, Bull-alley, or Exchequer-street, I know not.

THE REV. MR. STEGGALL'S MEDICAL CARD.

To the Editor of THE LANCET.

SIR:—I beg to enclose you a card which is extensively distributed in his neighbourhood by the Reverend John Steggall, Perpetual Curate of Ashfield, in this county, and the diocese of Ely. Is it possible that the regularly-educated members of the profession can support themselves honourably if subjected to such conduct as this from a man who, by his own confession, was apprenticed to a grocer in Stowmarket *after* he had received his medical education, which consisted in a few months' residence with some medical man in the county, and upon which he rests his title to practise, in defiance of an Act which is termed a protection to medical men? Is there no law by which such conduct could be punished? I am, Sir, your obedient servant,

MEDICUS.

Suffolk, Dec. 6, 1838.

"J. H. Steggall Surgeon Accoucheur &c Attends Midwifery in the Parishes of Bradfield Felsham and Gedding Labouring Class 5s. Other Classes in proportion to their means of payment: but in no Case (when spoken to) above 7s. 6d. and 10s. 6d.

"NB No *Journeys charged.*

"Mr S Attends at Mr Gates's Bradfield Gt Green, every Monday Wednesday and Friday from ½ past Ten to ½ past Eleven o'clock in the morning where he may be Consulted on any disease or Sickness to which the Human frame is Subject Particularly on the Disease commonly call'd the Kings Evil."

STOPPAGE OF CATHETERS BY SANGUINEOUS CLOTS.

To the Editor of THE LANCET.

SIR:—It has occurred to me, several times, to experience some difficulty in drawing off the water from the bladder, even when the catheter could be readily passed into that viscus, from the holes at the point of the instrument having become stopped by coagulated blood, which could not be removed by the wire in ordinary use for keeping the tube clear. On Sunday last a case of this sort came under my treatment, and I felt the situation of my patient to be one of great interest, for, although I could pass the instrument into the bladder, no flow of urine took place. Under this difficulty it occurred to me that a bit of solder fixed on the end of the wire, of the exact size to fill the calibre of the catheter, yet not so large as to prevent it from being moved freely, would dislodge any matter which might impede the flow of the water. This idea was speedily carried into effect, and with the most perfect success; and, as the hint may be useful, I submit it to the profession through your widely-circulated Journal. Your obedient servant,

FRANCIS J. BUSH.

Frome, Dec. 1, 1838.

EFFECTS OF USING JOYCE'S PATENT STOVE.

To the Editor of THE LANCET.

SIR:—By giving publicity to the following brief statement, through the medium of your valuable Journal, you will oblige your obedient and humble servant,

CHARLES CHAPMAN, Jun.

Lower Tooting, Dec. 5, 1838.

On the 15th of November, of the present year, I received a hasty summons to attend Mr. Wm. Jones, ætat. 19, and found him in the semi-recumbent posture, labouring under the following symptoms, viz., violent pain in the head, with a sensation of constriction round the forehead and temples, resembling, as he said, that produced by a tightly-bound cord; widely-dilated pupils, feebly contracting when exposed to light; singing and hissing in the ears; pulse 120, feeble and regular; great pallor of the face, with slight lividity of the lips; extremities cold; hands of a faint purple hue; slightly difficult and irregular respiration; great prostration of strength, amounting to inability to stand. Hot water was applied to the feet, and a small quantity of brandy and water, together with a little ammonia, was exhibited, with the effect of gradually increasing the volume of the pulse, and restoring warmth to the extremities. Though the amount of stimulus was but small, he became very violent, endeavouring to thrust away those around him. The pain in the head still continued without diminution. About six ounces of blood were then taken from the arm, with the effect of relieving his head symptoms very decidedly, increasing the activity of the pupils, and diminishing the difficulty of breathing. About an hour after the abstraction of blood he became calm and collected, and gave the following history of the cause of his symptoms:—He stated that after breakfast he was perfectly well, and retired, for the purpose of studying, into a small room, warmed by one of Joyce's stoves; in the course of an hour he felt a little pain in the head, and dizziness, which induced him to open the window, when these disagreeable sensations shortly vanished, but, feeling the cold air uncomfortable, he was induced to close the window, and remained, intent upon study, for another hour, when he felt so seriously indisposed that he was compelled to leave the apartment; his friends, alarmed at his appearance, immediately summoned me to the spot, when the above symptoms were carefully noted.

It may be deemed worthy of observation, that in consequence of having accidentally been informed by the father of this gentleman that he had purchased one of the stoves in question, I cautioned him strongly never to use it without having the door or window open; this caution he had never failed to observe; but the son, unconscious of the warning, remained for two hours in an atmosphere impregnated with carbonic acid gas.

ASSESSED TAXES AFFECTING MEDICAL PRACTITIONERS. — *To the Editor.* SIR:—Medical practitioners, both in London and in provincial towns, are frequently in the way of hiring a carriage, horse, or horses, and man, from a postmaster, by the month. Query, If the articles be hired by the month, but the hiring repeated twelve times in succession, do the duties fall to be paid by the user and not by the owner, whatever may be the bargain between the two parties? Or, is the attempt at present making by the tax-gatherers, to enforce payment of the duties from the user, not contrary to law? I am, &c., M.D.—**** The practice in London is for the person who lets the carriage and horses to pay the duty.—ED. L.

TO CORRESPONDENTS.

The letter of *Mr. Chandler* is inadmissable.

The communications of *Mr. W. Rendle*, *Mr. Coley*, *Dr. Rogers*, and *Mr. Carr* next week.

We have been compelled to defer, until next week, our reports from the Westminster and Medico-Chirurgical Societies.

We have perused the statements contained in the Jersey paper, but cannot undertake to decide the question in dispute.